DOCUMENT RESUME

ED 066 355 SO 002 075

TITLE	Issues of Our Time.
PUB DATE	71
NOTE	511p.; Activity units presented at National Council for Geographic Education, Annual Convention, 1971
AVAILABLE FROM	National Council for Geographical Education, Oregon College of Education, Monmouth, Oregon
EDRS PRICE	MF-$0.65 HC Not Available from EDRS.
DESCRIPTORS	Activity Units; Elementary Education; Geographic Concepts; *Geography; *Geography Instruction; Higher Education; *Instructional Materials; Secondary Education; Teaching Techniques

ABSTRACT

This volume is a collection of materials used to conduct activities in the sessions of the 1971 Annual Convention of the National Council for Geographic Education. Seventy-nine geography activity units and strategies focus on six topics: 1) The Transportation Maze: Passages and Portals; 2) Economic Development: The Quest for Material Well-Being; 3) Migration: Mayflowers Old and New; 4) Social Conflict and Resolution: The Quest for Identity with Dignity; 5) Environmental Quality: Management of Preferences; and 6) Responsive Government: The Games People Play. The book is divided into elementary, secondary and college sections. While some of the materials are untested, many have been tested and proven successful in the classroom. Some units are complete and others are parts of larger works available through the authors. The table of contents identifies titles and authors by level and topic. An alphabetical author index is also provided. (Author/SJM)

FILMED FROM BEST AVAILABLE COPY

ED 066355

SO 002075

ISSUES
of our
TIME

ONE WAY
ONE WAY
ONE WAY
EAT
trains
HOT DOGS 20¢

PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL BY MICROFICHE ONLY HAS BEEN GRANTED BY

Bill Elam

TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE U.S. OFFICE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER

THE ISSUES OF OUR TIME

A COMMUNITY PERSPECTIVE

The Program Committee

of

NCGE-Atlanta-71

gives special recognition

to

MRS. GERTRUDE BURTON

who turned a mountain

of material into printed copy.

And to

Michael Cranston

and

Jerry Elliott

who prepared many of the drawings,

maps and graphs

for printing.

Their efforts were magnificent.

Table of Contents

Rushdoony, Haig A.	Transportation and Traffic in an Agricultural City: A Multi-Sensory Approach.	E-1-1
LaRue, Berthola	Building the Highway.	E-1-19
Kracht, James	Sights, Sounds and Smells of the City: Children's Perceptions of the Urban Environment.	E-1-23
Steiner, Janet T.	Survival in the South Pacific· Can Adam Make It?	E-2-27
Stevenson, Margaret	Money-Go-Round.	E-2-36
Duchek, Donna	The Assembly Line Game: Worker's Welfare vs. Government Demands on Managers for Factory Production.	E-2-39
De King, Leon R.	The Physical and Cultural Limits to Economic Growth.	E-2-45
Burney, O.L.	Ricky and Billy's Dollar Vote.	E-2-50
Steinbrink, John E.	Harlem and New York City from The Autobiography of Malcolm X.	E-3-54
Ainsworth, Charlotte	DeKalb's Growing Pains and Problems: The Why and How We Grow.	E-3-58
Teel, Dorothy	Up, Up and Away--Another School Next Year?: or Children's Stability.	E-3-67
Huhn, Bernard	Primary Motion: Migrations of Elementary Students.	E-3-78
Landing, James E.	Amish Migration as a Problem-Solving Mechanism.	E-3-85
Oosterman, Gordon	The Navajo and the Problems and Promises of the Reservation.	E-4-94
Dickerson, Joan	Culture: What is Mine?	E-4-101
Handley, Leslie	The Trail Boss Game: Simulation of Conflict.	E-4-106
Blackwell, Diana E.	Economic and Social Diversity Within the Urban Setting; Focus on the American City.	E-4-111

Como, Charles H.	Citizens of a Child's World; Reality versus Perception.	E-4-118
Anderson, Jeremy	"'Where Did You Go?' 'Out!' 'What Did You Do?' 'Nothing!'" Some Implications of Children's Home Range Behavior.	E-5-124
Kuchler, Eula T.	The Chattahoochee River: Charm or Chaos?	E-5-128
Rueff, Joseph A.	The City and Government: The Art of Making Choices.	E-5-136
Asmussen, Dennis G.	The Child as an Urban Geographer: Where Do The Children Play?	E-5-144
Garrett, Anne C.	Our Crowded, Dirty World: The Development of Our Environmental Crisis and Its Impact Upon One's Habitat.	E-5-147
Miller, Carol	A Stream is a Living Thing.	E-6-153
Martorella, Peter H.	No Place to Play: Valuing Dilemmas in the Choice of Recreational Sites.	E-6-165
Vass, Ben	Moscow, Blueprint For A City - the Only Really Planned City in the World!	E-6-169
Bishop, John E.	Who Should Have the Neighborhood? Children's Ideas About the Future Development of an Aging Neighborhood.	E-6-178
Witthuhn, Burton O.	Why Can't I Play Here? The Classroom: A World in Miniature.	E-6-182
Howard, Preston O.	PORTS: A Computer-Assisted Instruction Unit Simulating the Effects of Relative Locational Advantage on Port Growth.	C-1-186
Dastyck, Richard	The Port of Los Angeles and Related Transportation Maze.	C-1-191
Huke, Robert E.	"RICEGROW***"	C-2-192
Richason, Benjamin F.	Economic Development: The Market Place.	C-2-199
Roefs, Theodore G.	Quantification of Alternatives in Water Resource Management.	C-2-201
Pemberton, Dixie	Where Will They Move Tomorrow?: Site Changes in Population Clusters of White, Non-White and Cuban People in the City of Miami	C-3-205

Frost, Melvin J.	Guatemala Population: Ladino or Indio?	C-3-218
Barrett, Frank	The Portals and Barriers of International Migration.	C-3-223
McColl, Robert W.	Insurrection: Gamble or Political Geographic Strategy.	C-4-231
Thompson, Bryan	Newcomers to the City: Ethnic Community Formation, Growth, and Change.	C-4-234
Silberfein, Marilyn	Apartheid Since 1652.	C-4-239
Kerr, William S.,III	The Dilemma of the White Fringed Beetle and the Decision to Use Persistent Pesticides.	C-5-244
Miller, E. Willard	The Energy Revolution and the American Dream.	C-5-251
Black, Richard W.	The Ability of Modernized Maritime Systems to Benefit American Cities; Focus on New York.	C-5-252
Buchert, Beverly	Proxemics and Scale: Configurations of Conflict.	C-6-262
Wright, Robert C.	How to Change the Game: Can the Black Caucus be Influential for Responsive Government for Black America?	C-6-268
Haring, Lloyd	Decision-Making in Political Geography: The Problem-Solving Approach.	C-6-270
Cole, Richard	Urban Removal and Concrete Corridors: Interstate 90 in Seattle.	S-1-274
Woodruff, Edward	Jetport in the Everglades: To Build or Not to Build?	S-1-281
Keller, Robert A.,Jr.	Routing Washington's New *Metro*.	S-1-290
Fernald, Edward A.	Canalers and Conservationists: The Projected Cross-Florida Canal.	S-1-294
Dodge, Kay, and Lewis, Russell	Dietary Patterns in the Twentieth Century America: America the Hungry?	S-2-301
Veal, Willis D.	After the Flood: The Eagle and the Bear at Aswan.	S-2-305
Croft, Jerry	Rinnsal: Exercises in Location Analysis.	S-2-311
Hagen, Frank	Paradox of Plenty.	S-2-315

McNamee, Sister Ann Marie	Portland Seattle Port Competition for Trans-Pacific Trade: Producers' Viewpoint.	S-2-318
Amberg, Sister Alicia	Trans-Pacific Trade Competition: Port of Portland and Port of Seattle.	S-2-327
Johnson, Robert G.	Game Playing With a Bite! An Evaluative Simulation.	S-2-332
Callahan, Sister Miriam Thomas; Gommels, James; & Putney, Kenneth L.	Population: $1 + 1 \neq 2$ Many.	S-2-335
Wendell, Sister Patricia	Agricrisis: A Probe Into Man's Agricultural Needs in Developing Countries.	S-2-348
Weston, Robert H.	Cultural Migration: Snowballs in the Sahara.	S-3-354
Roseman, Curtis C. & Halbach, Michael J.	Migrants in the United States and the Problems of Assimilation.	S-3-357
Radz, Michael A.	Chaos and Community: A Study of a Social Issue Involving City and Suburb.	S-4-362
Teffeteller, Gordon L.	Campus Unrest: The Events in France and the U.S.A. 1968.	S-4-371
Nelson, Phillip J.	"Quandry." Metropolitan Planning for Land Use.	S-4-377
Bernard, Richard	Blue Lake: To Dump or Not to Dump.	S-5-381
Addison, William S.	Regional Planning: Focus on the Toronto-Centered Plan; Implications and Reactions.	S-5-405
Bright, Keith L. & Lambert, Jack R.	Rookery Bay: Can Conservation and Development Co-exist?	S-5-415
Brenchley, David	Of Course There's No Pollution Here!: Student's Evaluation of the Local Environment.	S-5-425
Bill, Erwin	What is all this Dam Foolishness?	S-5-435
Mayne, Janice	Save the River: Speed or Leisure?	S-6-444
Stoltman, Joseph P.	One Man, One Vote?: The Issue of Reapportionment in Georgia.	S-6-449

Antonelli, Vincent	Local Zoning Ordinances: Who's Allowed to do What?	S-6-455
Link, H. Douglas; Mitchell, Rodney; & Holmes, James	Projected Balance: De-Segregation Proposals for Fresno's Junior High Schools.	S-6-466
Bond, Theodore; Pierce, Gregory; DosPassos, Robert; & Miley, Robert	You Can't Sell Your Mother: Conflict Between the United States Government & the Sacne Nation.	S-6-474
Anacker, Robert & Swanson, Lynn	Urbanville: A Case in Decision-Making.	S-6-492

THE ISSUES OF OUR TIME

A COMMUNITY PERSPECTIVE

FORWARD

This volume represents the essential materials for the successful conduct of activities in all sessions of the 1971 Annual Convention of the National Council for Geographic Education. As a convention participant you will not have access to all sessions. The program committee felt, however, that you should have access to all materials for all sessions.

We feel that this volume represents as fine a collection of materials to be found anywhere - particularly when it is recognized that these materials represent the efforts of teachers "on the firing line."

Some materials are new and untested. The discussion leaders want you to put the work to the test. Some materials are parts of larger works and available through the authors. Some materials have been tested and proved successful in the classroom. All are worthy of your attention.

The book is divided into Elementary, College and Secondary sections. To find your interest area easily, it is coded "E", "C", or "S". There are three issues focused in six topics: 1) The Transportation Maze: Passages and Portals; 2) Economic Development: The Quest for Material Well-Being; 3) Migration: Mayflowers Old and New; 4) Social Conflict and Resolution: The Quest for Identity with Dignity; 5) Environmental Quality: Management of Preferrences; and 6) Responsive Government: The Games People Play. Each topic is identified with its number following the level letter: i. e., E-1, C-4, S-2, etc. The final symbol is the consecutive paging through the book. The table of contents identifies titles and authors by level and topic while the index gives pages by authors alphabetically.

J. W. G.

Issue:	Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	The Transportation Maze: Passages and Portals.
Title:	"Transportation and Traffic in an Agricultural City: A Multi-Sensory Approach."
Descriptor:	Traffic and transportation confronts the child in the class, at school, in his neighborhood, and in and out of the city. Observing, listening and grasping the scent ("smell") of the inflow and outflow of traffic consciously for inquiry into and analysis of the value, problems, and possible solutions related to the transportation of an agricultural city is the focus of this study.
Discussion Leader:	Haig A. Rushdoony, Stanislaus State College, Turlock, California

* * * * *

"Transportation and Traffic in an Agricultural City: A Multi-Sensory Approach."

This strategy is a conceptual-inquiry, learner-oriented emerging plan to guide youngsters to hypothesize, explore, discover, and solve problems related to the transportation maze of their agricultural city. The sequential procedures are broad in scope and flexible in order to encourage each learner to pursue his inquiry in his own way, rather than a prescriptive mode. Thus, some procedures and materials remain unnoted at this point.

This strategy is designed for a continuum of a developmental sequence for the total class; however, it is not designed for each child to participate in each activity and with the same level of competency or understanding. Lastly, independent activities and games will emerge for the sheer joy of learning more. A few possible activities and games for independent study may be criss-cross or crossword puzzles on a particular sequence, What or Who Am I?, Listen to See if You Know Who or What I Am (based on recordings), real or mock taped interviews of people to determine what type of work the interviewee does and how the child figured it out, impressions of sights, sounds, or smells around the city via sketchings, paintings, modelings, poems, stories.

The Strategy

1. Introducing our city via

    1.1 Asking children to hypothesize (guess) what they think an agricultural city such as Turlock looks like from the air.
    1.2 Following their hypothesis, having children view film to look for the following:

- 1.21 What is Turlock like?
- 1.22 What places or areas can we recognize from our aerial trip?

1.3 Presenting sound, colored five-minute motion picture depicting an aerial view of Turlock (Plates 1-8).

- 1.31 After viewing aerial film trip, check findings with what children hypothesized--discussing reasons for concurrence or disagreement.

1.4 Compiling cooperative list of important areas or places sighted during aerial film trip such as

- 1.41 Neighborhoods, including schools, streets, shopping areas
- 1.42 Downtown
- 1.43 Other business-industrial areas
- 1.44 Transportation routes
- 1.45 Other (as children identify)

2. Re-introducing our city: a closer look via aerial slides (Plates 9-17).

   2.1 Using inquiry approach regarding the following:

   - 2.11 Areas located in aerial film (See 1.4); e.g., What areas do we find in Turlock? How is each area different? Alike?
   - 2.12 What seems to be the main traffic routes within Turlock? Through Turlock to other places?
   - 2.13 How do people and things seem to get from place to place within our area? Outside the area?

3. Recording inquiry findings from what observed in introducing an agricultural city via aerial slides and motion picture.

   3.1 Establishing categories by tabulating main uses of our city. (See Figure 1)

   3.2 Using a large-scale aerial photograph of the community, (See Photo 18) with a transparent overlay, plotting in general the four geographic locations of zones such as the following:

   - 3.21 Downtown
   - 3.22 Commercial-Residential
   - 3.23 Residential
   - 3.24 New areas, including farm lands around city

   3.3 Adding main transportation routes onto transparent overlay of aerial photograph

   3.4 Beginning a second tabulation chart regarding "Type of Transportation" with double columned subtitles entitled (1) Within Turlock," and (2) "In and Out of Turlock."

4. Preparing for an analysis of our inquiry findings via bus trip around our city

    4.1 Reviewing data under #3.

    4.2 Plotting on outline map of city--containing data indicated under 3.2 and 3.3--the route to follow on bus trip to see how many of our aerial observations can be found on the bus trip and what additional observations may be noted.

    4.3 Establishing ways of recording observations, such as the following:

        4.31 Sketching
        4.32 Mapping ("sketch" mapping)
        4.33 Photographing
        4.34 Tallying or tabulating
        4.35 Taping

5. Visualizing our city and the network of transportation connections via a bus trip

    5.1 Using techniques and tools children selected under #4

    5.2 Including visit to newspaper plant (See Photo 19) regarding old newspaper photographs of the city and the news agency regarding newspapers and post cards to begin preparing scrapbooks such as the following:

        5.21 Transportation in the News
        5.22 Advertising and Transportation
        5.23 Picturing Our City

6. Exchanging ideas with each other and with the city planner

    6.1 Sharing our findings from the bus trip with city planner
    6.2 Reviewing aerial motion picture to compare observations with those on bus trip
    6.3 Reviewing selected aerial slides for same purpose as 6.2 (as needed)
    6.4 Sharing of observations and findings by city planner
    6.5 Recording findings on cassette (or recording 6.1 and 6.4 entirely)

7. Following up on #5 and #6

    7.1 Refining trip recordings (e.g., See Tabulation Chart-- Figure 2 which would be a completion of #3.4)
    7.2 Cutting out pictures, news items, and transportation advertisements; mounting postcards and photographs (See #5.2)

  - 7.3 Deciding how to organize and to display materials and findings
  - 7.4 Listening to cassette from bus trip recordings and from #6.5

8. Comparing findings from bus trip and city planner's visit with aerial film, photographs and slides

  - 8.1 Summarizing tentative conclusions via media such as the following:

    - 8.11 Tabulation charts
    - 8.12 Tables
    - 8.13 Tapes
    - 8.14 Graphs (See Figure 3)
    - 8.15 Zonal map
    - 8.16 Outlines
    - 8.17 Cooperative and individual stories

9. Probing: How do people and goods get there?

  - 9.1 Hypothesizing from #8.1 and recording hypothesis
  - 9.2 Deciding how to test hypothesis selectively and what techniques to utilize

10. Taking a trip to selected sites and situations to test hypothesis via, e.g.,

  - 10.1 Recording vehicles as to type, number and what goods carrying
  - 10.2 Interviewing of personnel by children (through prior arrangements and at selected areas)

11. Reporting findings and drawing conclusions regarding hypothesis

  - 11.1 Noting whether accepted, rejected or modified hypothesis and why

12. Hypothesizing: Why is transportation so important?

  - 12.1 Listing reasons (hypotheses)
  - 12.2 Selecting places to visit to test reasons; e.g.,

    - 12.21 Paper or lumber mill (See Photo 20)
    - 12.22 Poultry Ranch (See Sketch of Poultry Sign at Ranch Entrance--Figure 4)
    - 12.23 Dairy
    - 12.24 Police Station
    - 12.25 Business

13. Taking selective bus trips to test hypotheses and to find the following:

  - 13.1 Determining the process of each business, industry, or service and how transportation plays important role(s)

13.2 Deciding what we can learn through senses, production, and traffic via

13.21 Hearing with and without sight
13.22 Smelling with and without sight
13.23 Seeing with and without hearing or smelling
13.24 Touching with and without hearing
13.25 Touching with and without seeing

14. Following up of each trip via media such as

14.1 Constructing of flow chart of process and/or traffic
14.2 Sketching and/or photographing what viewed (See Photo 21)
14.3 Taping of what heard (without sight)
14.4 Writing stories and/or sketching impressions of smells, touches, and/or tastes
14.5 Mapping inflow and outflow of traffic (See Figure 5)

1 Introducing Studying Transportation Inflow and Outflow of Our City: Problems and Solutions.

15.1 Tallying and mapping flow and kind of traffic past school (See Figure 6), neighborhood, shopping centers, downtown, highway, (See Photo 22), and in and out of Turlock (See Figure 7).
15.2 Photographing and sketching of same (See Photo 23)
15.3 Recording sounds of traffic at selected places (See Photo 24)
15.4 Observing and smelling pollution elements
15.5 Interviewing, visiting, or having city councilmen, traffic engineer and planning commissioner report on questions raised by children such as

15.51 Future of our city regarding changes, trends, and new development, including the pending freeway and its effect on traffic flow and commerce

16. Sharing collected data from #15, deciding how to record and retain findings and what to do with them.

16.1 Hypothesizing from findings the short and long term future transportations problems and solutions
16.2 Selecting sites and situations to observe to test hypotheses
16.3 Selecting tools and techniques to measure hypotheses
16.4 Taking trips to test hypotheses using tools and techniques selected in #16.3
16.5 Reporting findings and accepting, rejecting, or modifying hypotheses proposed under 16.1
16.6 Writing a letter home predicting the long-range hypothesis

17. Having a transportation festival

17.1 Inviting personnel interviewed, visited or previously invited to school to attend the festival
17.2 Inviting parents to attend

17.3 Sharing our "work"
17.4 Discussing purported solutions and problems with dignitaries and parents

MAIN USES OF OUR CITY

BUSINESS AND INDUSTRIAL
PUBLIC (GOVERNMENTAL, EDUCATIONAL
AND RECREATIONAL)
RESIDENTIAL
TRANSPORTATION

Figure 1

TYPES OF TRANSPORTATION

WITHIN TURLOCK --	IN AND OUT OF TURLOCK
AUTOMOBILES	AIR PLANES
BICYCLES	AUTOMOBILES
BUSES	BUSES
MOTORCYCLES	MOTORCYCLES
TAXICABS	TRUCKS
TRUCKS	TRAINS

Figure 2

SIZES OF MAIN AREAS IN OUR CITY
1971

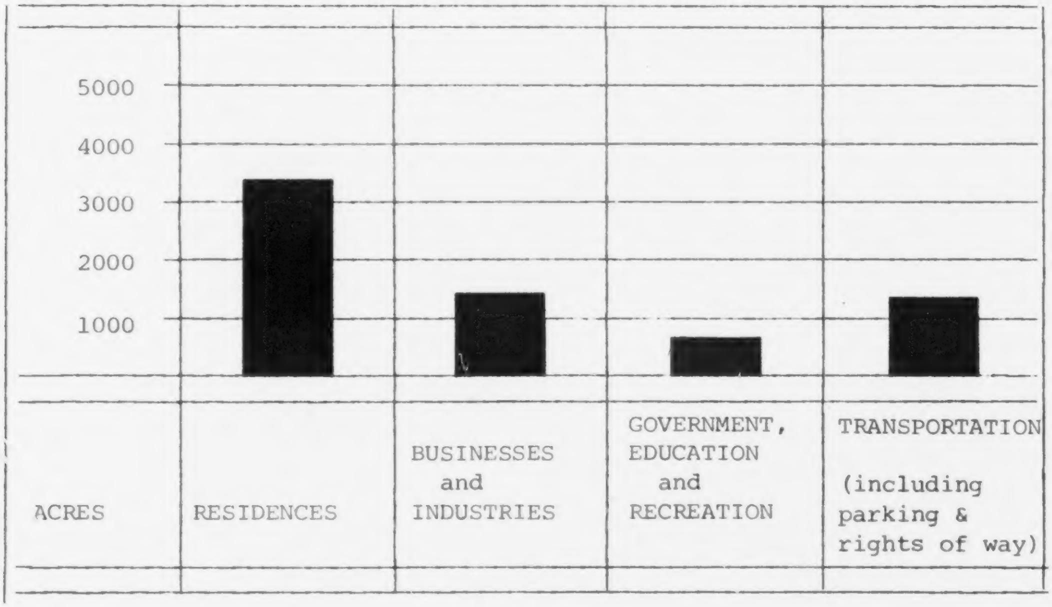


Figure 3

E-1-8

A CHILD'S SKETCH OF POULTRY SIGN AT RANCH ENTRANCE

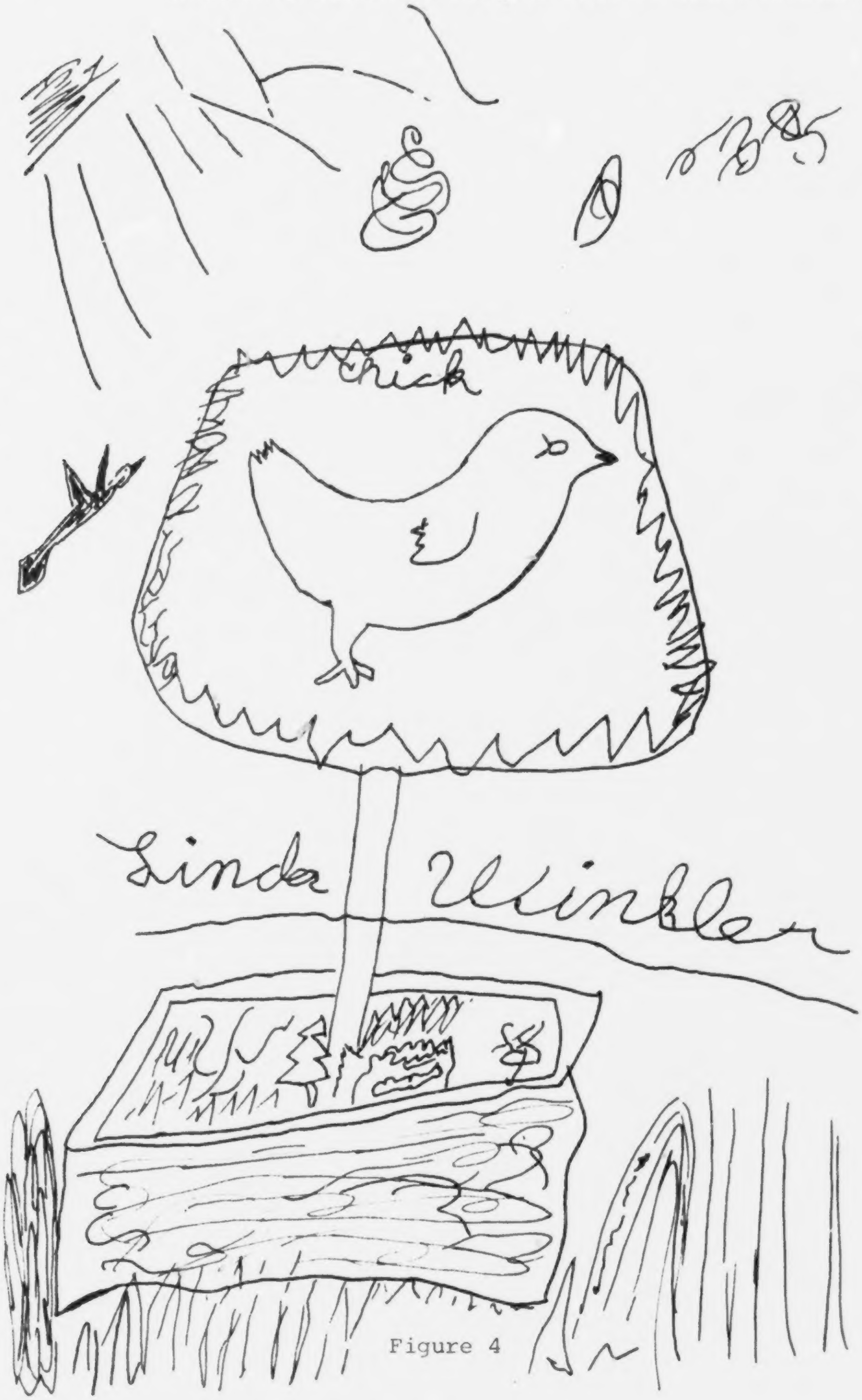

Chick
Linda Winkler

Figure 4

TITLE............
DATE.............

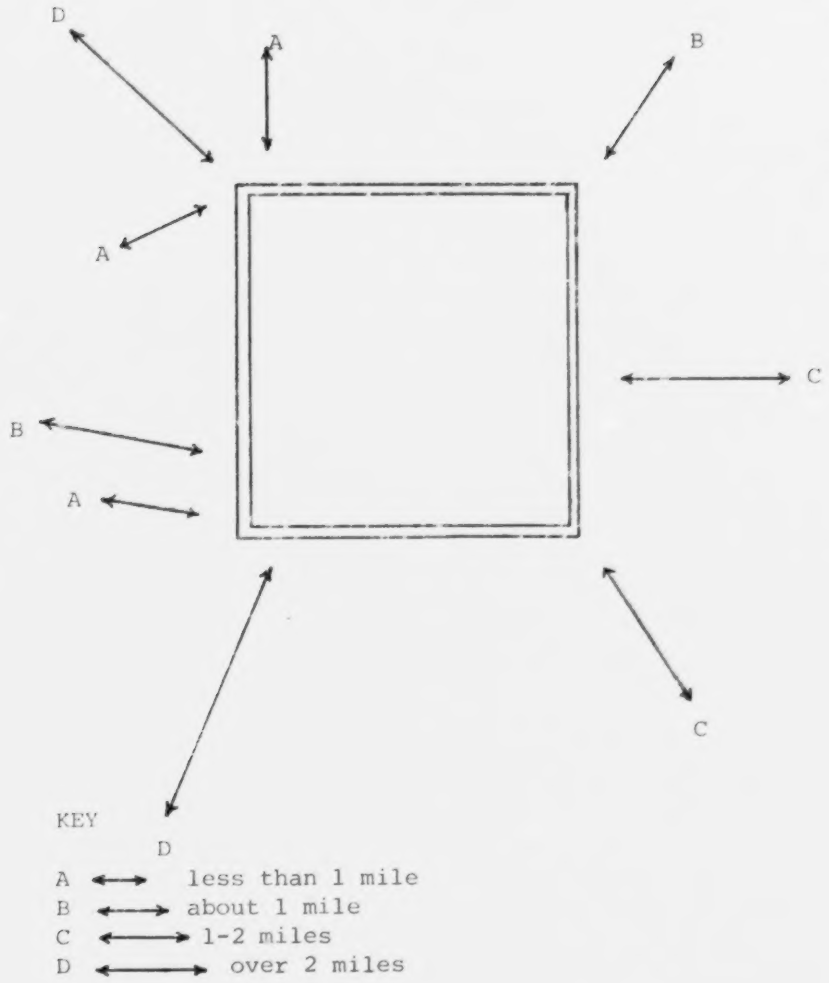

D
A
B
A
C
B
A
C
D
KEY
A less than 1 mile
B about 1 mile
C 1-2 miles
D over 2 miles

Figure 5

TRAFFIC PER MINUTE NEAR SCHOOL

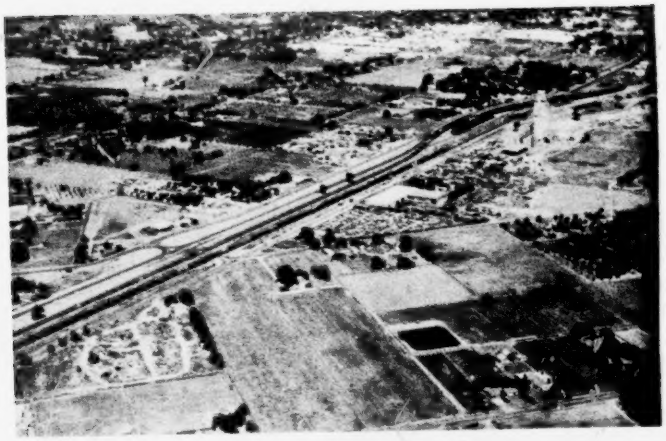
TIME OF DAY	COMMERCIAL	NON-COMMERCIAL
At start of school day -		
During school (morning) -		
At noon -		
End of school day -		

Figure 6

AMOUNT OF TRAFFIC IN AND OUT OF TURLOCK

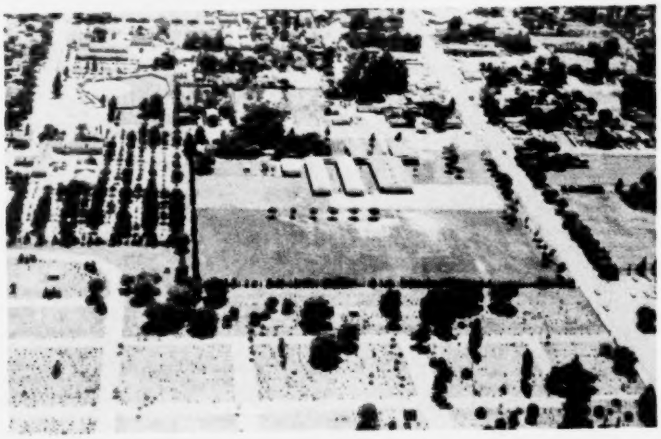
KIND OF TRANSPORTATION	LOCATION	TIME	WITHIN CITY	IN AND OUT OF CITY
AIR				
AUTOMOBILES				
BICYCLES				
BUSES				
MOTORCYCLES				
TAXICABS				
TRAINS				
TRUCKS				

Figure 7



Approaching the "Old" Industrial-Residential Turlock from the South

The College Area: A View from the North



A School in a Westside Neighborhood

Downtown Business Area

The Greer-Landie Thoroughfares as Viewed Above the Northeast Corner of the College Campus

Stanislaus County Fairgrounds

A Westside School and Neighborhood

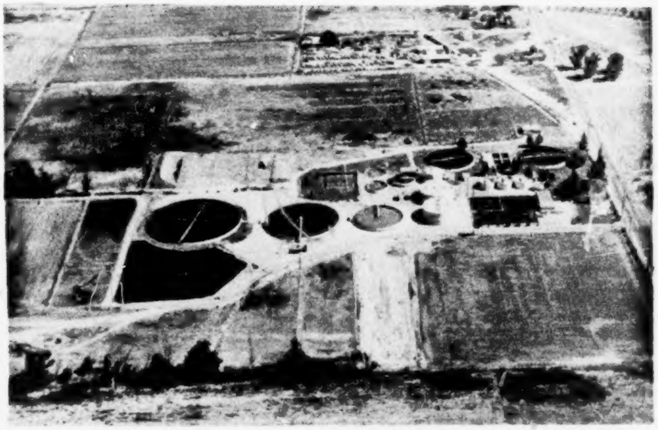
Inflow of Canal Water for Agricultural Turlock

Highway 99 Bisecting the City of Turlock: A View from the South

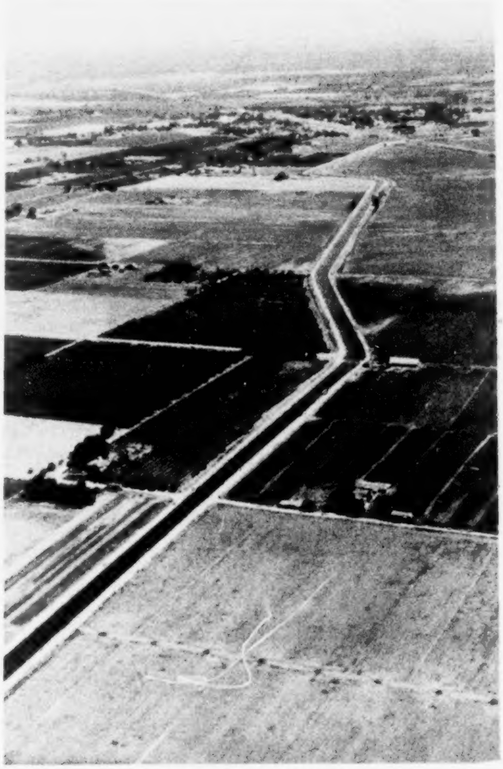
Downtown Business Area: A Closer View

Two Schools and an Eastside Neighborhood Shopping Center

Highway 99 Slicing Through the Heart of Turlock: A View from the North

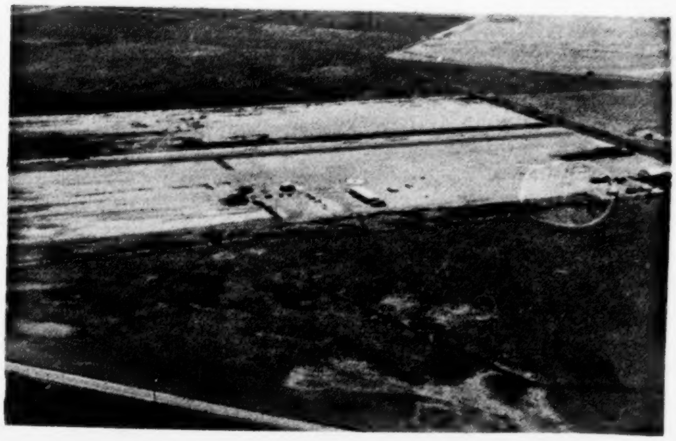


The Sewage Center: Industrial Turlock



Rural Turlock

A Manufacturing Plant for Pre-Fabricated Metal Buildings: Industrial Turlock



Turlock Airport

Modesto Municipal Airport

Approaching the City of Turlock

Miss Sandra K. Wilson's Class
Visiting the Newspaper Office

IONAL PAPER COMPA

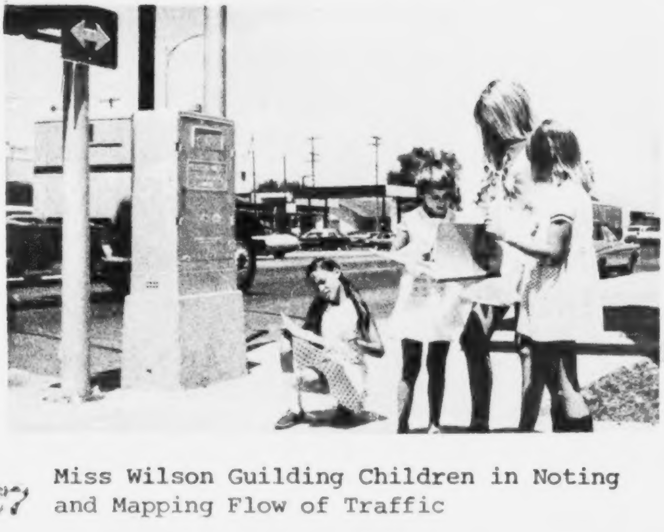
Miss Wilson and Children Leaving the
International Paper Company

Miss Wilson Guiding Children in
Photographing a Neighborhood Shopping Center

BIES -CRAFTS

Recording Sounds of Traffic
and Tallying Flow of Traffic Downtown

Photographing Traffic as
We Ride Downtown



Miss Wilson Guilding Children in Noting
and Mapping Flow of Traffic

Issue:	Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	The Transportation Maze: Passages and Portals.
Title:	"Building the Highway."
Descriptor:	Materials to assist children respond to their environment and to further develop concern for community and National achievements.
Discussion Leader:	Berthola La Rue, Berryville Elementary School, Berryville, Arkansas.

* * * * *

Building the Highway

Materials included here, most of which are student generated, are designed to give students an appreciation of where they live in relation to other states, what local natural resources exist, to increase an awareness of community, and to foster creativity in learning about their home area.

Figure one is reduced scale maps of their home county, state, and nation. Also included are a bulletin board photo, student sketches, paintings, experience charts, and a choral chant all of which were done by the students.

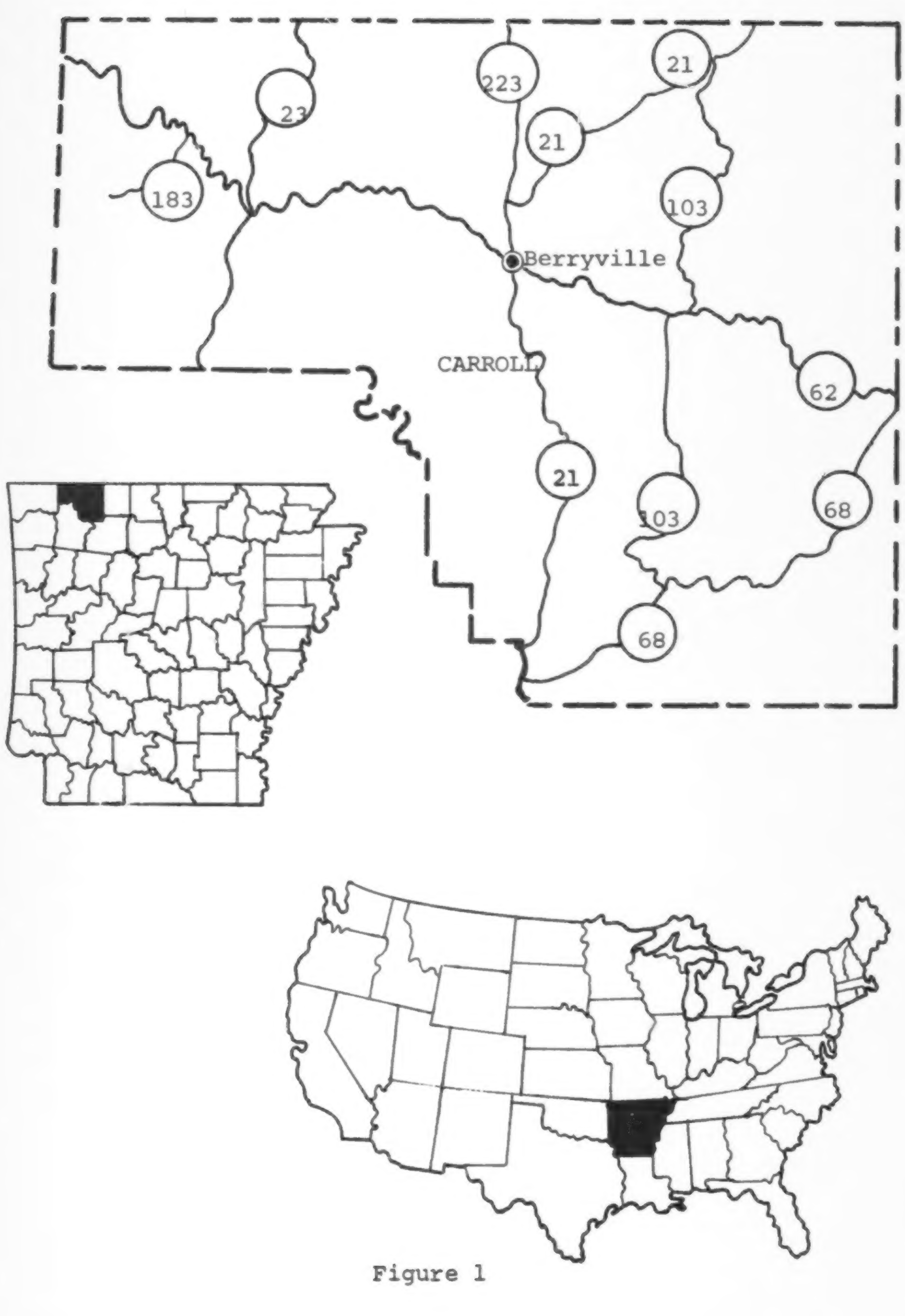
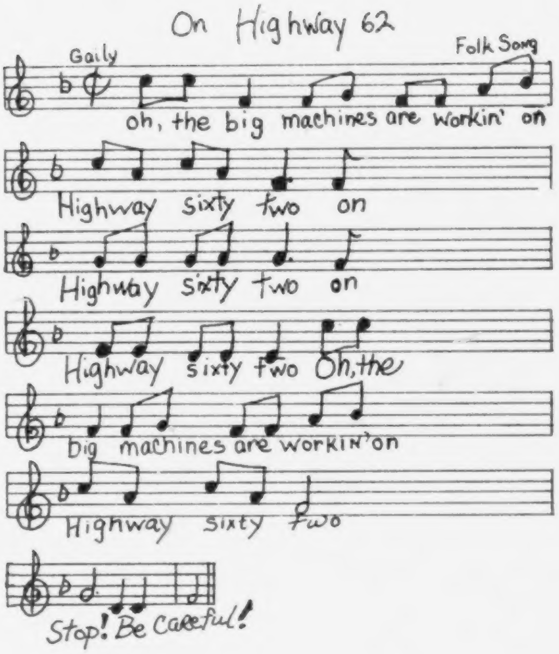

23
223
21
21
183
103
Berryville
CARROLL
62
21
103
68
68

Figure 1


On Highway 62
Gaily
Folk Song
oh, the big machines are workin' on
Highway sixty two on
Highway sixty two on
Highway sixty two Oh, the
big machines are workin' on
Highway sixty two
Stop! Be careful!

Highways Choral Chant

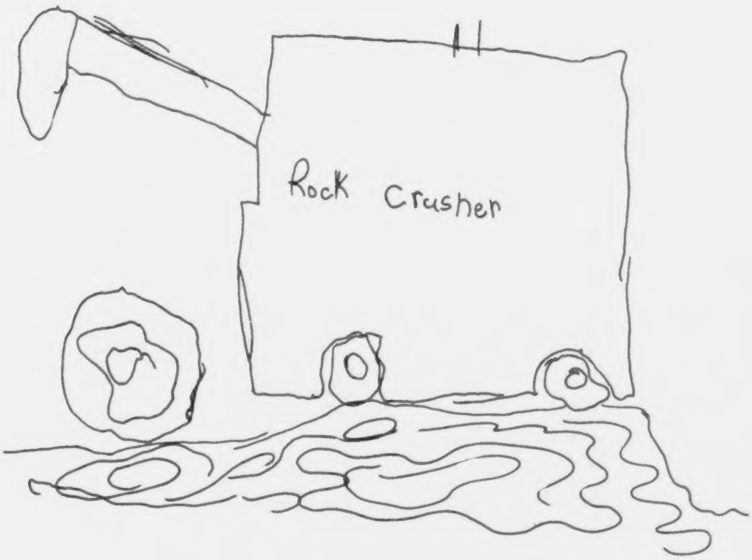
Highways are to go, go, go; Highways are to travel.
Highways are not slow, slow, slow; Highways are not gravel.

Highways go everywhere, where, where; Highways bring goods.
Highways take you there, there, there; Highways go to the woods.

Why A Highway?
We need a highway to go to get goods. Some goods are groceries, toys, what you wear. We need to go to town to pay taxes and to pay bills and to have fun!

Our Highway Paintings
The machines are yellow, gray or orange. Some are two colors. Some machines are rectangles. A few look like triangles. And a few are triangles. And a few are like cylinders. For safety all the workers wear yellow or orange or red or silver hard hats. Machines are made bigger than people, so they can get into them!

E-1-22


Rock Crusher

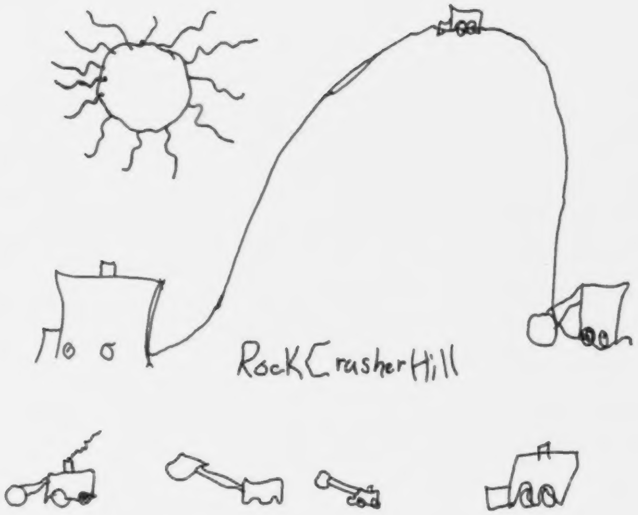

RockCrasherHill

Plate 1

E-1-23

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?

Topic: The Transportation Maze: Passages and Portals.

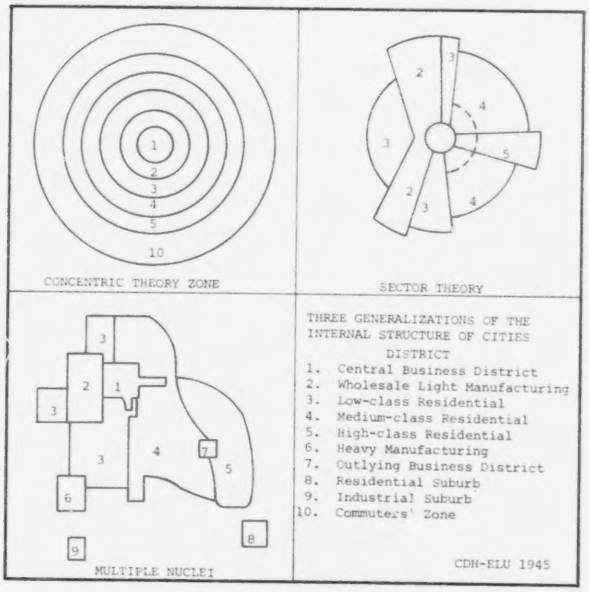
Titles: "Sights, Sounds and Smells of the City: Children's Perceptions of the Urban Environment."

Descriptor: Children's perceptions of the Sights, Sounds and Smells of the urban environment can be used to initiate an investigation of one of the structure of the urban milieu. Perceptions can be compared and contrasted with geographic reality in order to stimulate students to seek explanations for discrepancies.

Discussion Leader: James Kracht, Concordia Teachers College, River Forest, Illinois.

Joseph Decaroli, University of Delaware.

Generalized Models of the Internal Structure of Cities


1
2
3
4
5
10
CONCENTRIC THEORY ZONE
2
3
4
3
5
2
3
4
SECTOR THEORY
3
2
1
3
3
4
7
5
6
8
9
MULTIPLE NUCLEI
THREE GENERALIZATIONS OF THE INTERNAL STRUCTURE OF CITIES
DISTRICT
1. Central Business District
2. Wholesale Light Manufacturing
3. Low-class Residential
4. Medium-class Residential
5. High-class Residential
6. Heavy Manufacturing
7. Outlying Business District
8. Residential Suburb
9. Industrial Suburb
10. Commuters' Zone
CDH-ELU 1945

Generalizations of internal structure of cities. The concentric-zone theory is a generalization for all cities. The arrangement of the sectors in the sector theory varies from city to city. The diagram for multiple nuclei represents one possible pattern among innumerable variations.

Figure 1

PROCEDURES FOR USING THE SOUNDS OF THE CITY

1. Play selected tape recordings of sounds of the city.
2. Record student responses on recording sheet, or have students record their own.
3. Discuss interpretations of the sounds and of the places/activities associated with them.
4. Group sounds into categories on the basis of class-defined criteria.
5. Speculate as to the location of these groups of sounds.
6. Locate the groups of sounds in agreed upon areas of the city using an outline map.
7. Compare the locations of the groups of sounds to a generalized land use map of the city. Also, compare the activities associated with these sounds to the activities students associate with these land use categories.
8. Discuss the extent of "fit" or discrepancy between these locations and their associated activities and those associated with the generalized land use map.
9. Seek explanations for consistencies or discrepancies described above.
10. Relate these understandings to other perceptions students have concerning various areas in the city.
11. What predictions or hypotheses can be offered concerning the relationships of various areas of the city to each other.

RECORDING SHEET FOR SOUNDS OF THE CITY

DESCRIBE THE SOUND YOU HEAR	WHAT ACTIVITY/PLACE DO YOU ASSOCIATE WITH THIS SOUND?

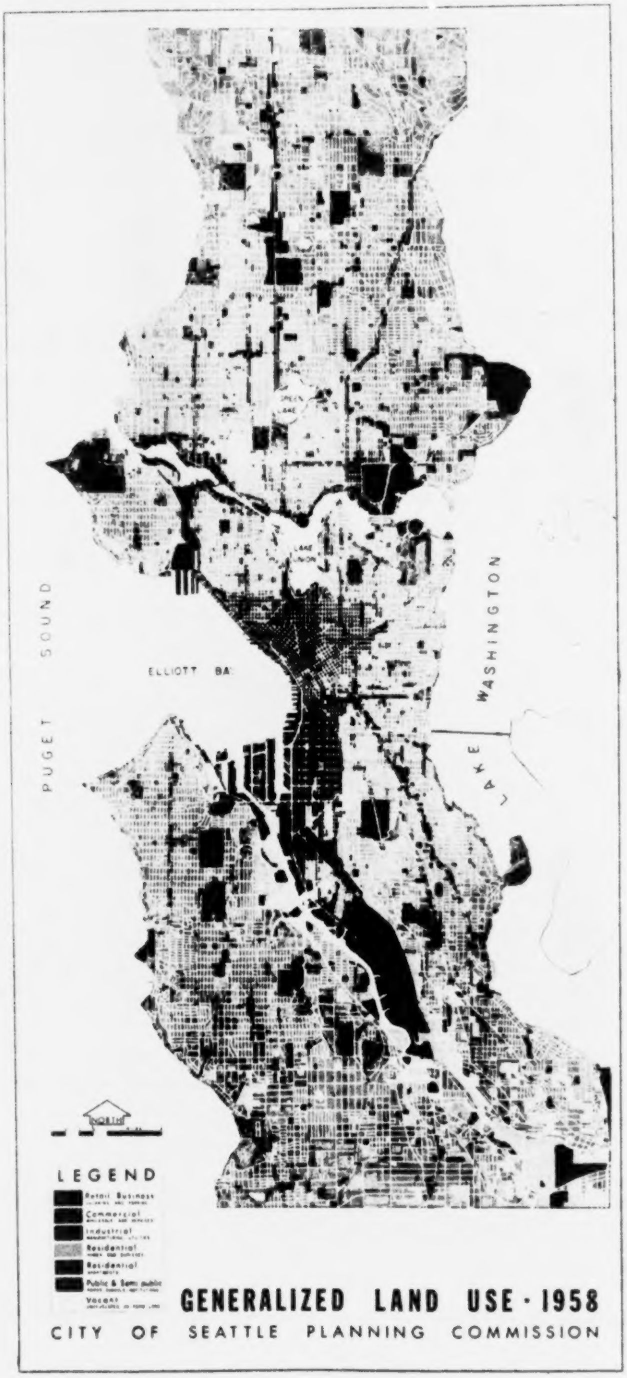

PUGET SOUND
ELLIOTT BAY
LAKE WASHINGTON
NORTH
LEGEND
Retail Business
Commercial
Industrial
Residential
Residential
Public & Semi-public
Vacant
GENERALIZED LAND USE · 1958
CITY OF SEATTLE PLANNING COMMISSION

Plate 1

E-2-27

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?

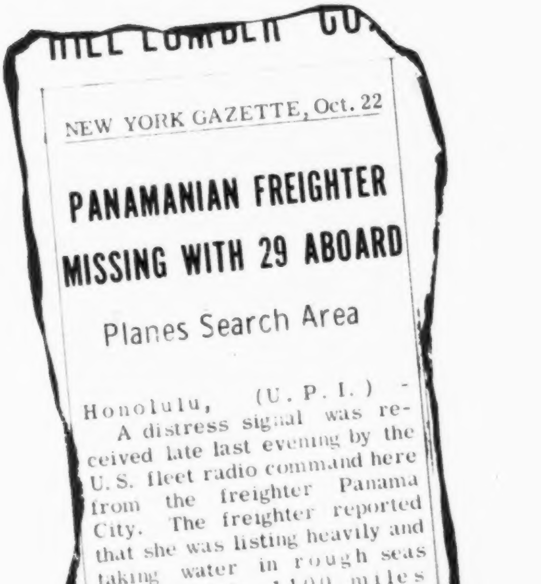
Topic: Economic Development: The Quest for Material Well-Being.

Title: "Survival in the South Pacific: Can Adam Make It?"

Descriptor: This unit of the Economic Man Program investigates the ways a man explores an unknown island, in order to survive and improve his own well-being. The problem of scarcity and improvement in the utilization of available resources is one faced by all mankind.

Discussion Leader: Janet T. Steiner, Merrill School, Park Ridge, Illinois.

A SELECTION FROM BOOK ONE
ECONOMIC MAN: PRODUCER AND CONSUMER



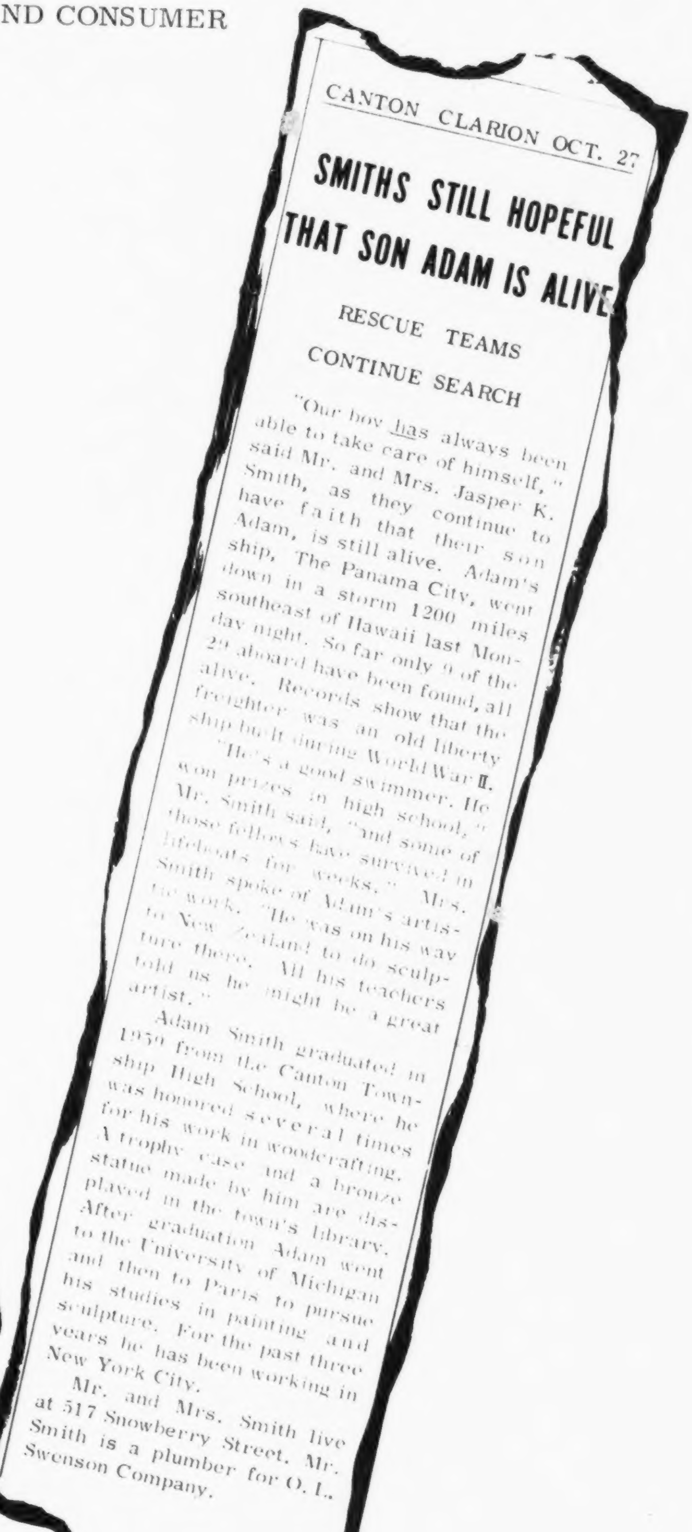
HILL LUMBER CO.

NEW YORK GAZETTE, Oct. 22

PANAMANIAN FREIGHTER MISSING WITH 29 ABOARD

Planes Search Area

Honolulu, (U. P. I.) - A distress signal was received late last evening by the U. S. fleet radio command here from the freighter Panama City. The freighter reported that she was listing heavily and taking water in rough seas approximately 1100 miles northwest of the Marquesas Island complex. Commander David Blair of the U. S. fleet command reported that the final communication from the stricken vessel was received at 11:15 p.m. yesterday, Honolulu time. All efforts to reach the ship by radio after that hour were unsuccessful. Air sea rescue planes launched from a carrier 500 miles west of the Panama City began searching the area early this morning. No information has been received yet regarding the fate of the vessel which reportedly has aboard 18 crew members and 11 passengers, including three Americans: William Brown of Allentown, Pa., Mark Shapiro of Albany and Adam Smith of Canton, Minn.



CANTON CLARION OCT. 27

SMITHS STILL HOPEFUL THAT SON ADAM IS ALIVE

RESCUE TEAMS CONTINUE SEARCH

"Our boy has always been able to take care of himself," said Mr. and Mrs. Jasper K. Smith, as they continue to have faith that their son Adam, is still alive. Adam's ship, The Panama City, went down in a storm 1200 miles southeast of Hawaii last Monday night. So far only 9 of the 29 aboard have been found, all alive. Records show that the freighter was an old liberty ship built during World War II.

"He's a good swimmer. He won prizes in high school," Mr. Smith said, "and some of those fellows have survived in lifeboats for weeks." Mrs. Smith spoke of Adam's artistic work. "He was on his way to New Zealand to do sculpture there. All his teachers told us he might be a great artist."

Adam Smith graduated in 1950 from the Canton Township High School, where he was honored several times for his work in woodcrafting. A trophy case and a bronze statue made by him are displayed in the town's library. After graduation Adam went to the University of Michigan and then to Paris to pursue his studies in painting and sculpture. For the past three years he has been working in New York City.

Mr. and Mrs. Smith live at 517 Snowberry Street. Mr. Smith is a plumber for O. L. Swenson Company.

Elementary Economics Project
Industrial Relations Center
The University of Chicago

WANTS AND THE NEED FOR RESOURCES

As everyone read about Adam in the newspapers, this is what was happening.

A tropical storm had battered the old freighter for a night and a day. On the second evening, weakened by the terrific pounding of waves, the ship's right side collapsed. As the steel plates buckled, tons of water rushed into her holds, and the ship tilted and settled crookedly into the sea.

Adam, clutching his most precious possession, his sackful of sculpting tools, stumbled unsteadily on deck as the captain ordered everyone into the lifeboats. The pounding sea and the tilting deck created furious disorder, and voices were scrambled by the wind. Steadying himself on a railing, he made his way to a lifeboat station. There a sailor helped him into a lifeboat along with two other passengers. At that moment a huge wave broke over the ship, tearing the lifeboat from the freighter's side and knocking Adam to the floor of the boat. The frayed ends of ropes that had held the boat fast snapped in the wind. On his knees, Adam fought to lash down the tiller as the lifeboat bounced among the high waves. He became entangled in the rope and this saved his life as another towering wave swept away his two companions. Adam now struggled to tie himself to the back thwart, and the lifeboat and its captive were shoved willy-nilly by the giant storm.

When daylight came the storm lessened and Adam found himself floating through grey choppy water, no boats or land in sight. He had little control over the direction of his lifeboat as the oars were lost and, besides, the boat was too big to be rowed by one man. So he drifted, pushed by wind and current. He was not hungry or thirsty as there were supplies in the boat, but he suffered from the sun.

It is late afternoon of his fourth day in the lifeboat when Adam thankfully watches an island rise up out of the ocean. As the boat drifts closer to shore, he fears he will smash on the reef which is marked by a line of breaking waves. Then a current running through a gap in the reef catches the boat and carries it safely into calm water. The boat lazily drifts to shore.

Adam wearily drags the boat up on the beach. He wants to lie down where it is dry and still, and sleep. But first he must wipe the salt water off his tools so they will not rust. He unwraps the tools, which are tied in small pieces of burlap, and wipes them dry with his shirt.

Behind the beach coconut palms are growing. He finds two fallen nuts and splits them, using a chisel and mallet. He drinks the refreshing coconut milk and eats a bit of the coconut meat. Then he makes a crude bed of coconut and other leaves at the edge of the beach and falls asleep, exhausted.

Adam wakes up late in the morning. He is still sore from his boat ride. On this first morning of his new life he walks along the beach singing high school songs in off-key pleasure at being alive. Once warmed up, he wades into the lagoon for a swim and salty bath.

Then Adam splits another fallen coconut and hungrily consumes the milk and meat. As he floated across the lagoon yesterday, he saw the mouth of a small river. The thought of fresh water is suddenly very appealing.

LAGOON: Refers to bodies of water of several kinds. Here it means the area of shallow quiet water between the island and the barrier reef.

MOUTH (of a river): The place at which a river flows into a body of water, such as a lake or ocean.

While eating the coconut, he decides to investigate the river just west of his campsite. He is walking toward the setting sun so he uses a leaf, folded into a sunhat, to shade his eyes. The river has created a large swamp in its mouth. Looking toward the mountains, it appears to Adam that this river must run from far inland. He decides to follow the river inland tomorrow, cross the mountains, and see what is on the other side of the island.

Adam sleeps late despite his scratchy bed. He takes a morning swim, then breakfasts on coconuts and fruit.

He prepares for his journey. The vegetation looks lush as far as he can see in every direction, so he will not have to worry about water, he decides. Probably he can find something to eat anywhere he is, but he decides to take some of the canned food left from the lifeboat just in case. He puts this and his coconut-shell cup in the gunnysack. They make a lonely bulge in one end of the sack, which he rolls up and ties around his waist. The axe and one knife have sheaths so he can carry them on his belt. With these simple preparations, he is ready.

INLAND: Away from a body of water; in this case, toward the center of the island.

VEGETATION: A general name for all plants growing in an area.

By now it is mid-morning. But Adam feels in no hurry. He plans to follow rivers as much as possible and make short explorations off to the side. One thing I have plenty of is time, Adam thinks to himself.

Instructions. Please take the landform map, and as you read the section titled, "Adam's Exploration," trace Adam's route on the map. Read far enough ahead to be sure where he goes before you draw his route. Use a pencil first, in case you make mistakes. Later go over the route with something more visible. Draw a short matching line in the Key opposite "Campsites during Exploration." Save this map for another lesson later.

Locate the two overnight campsites during this exploration on the map. Create your own symbol for the campsites and number them "1" and "2". Put the symbol in the Key opposite "Campsites during Exploration."

ADAM'S EXPLORATION

He walks west from his boat until he comes to the swamp, and then he turns south. As he walks around this edge of the swamp he notices a medium-sized plant with big, single, heart-shaped leaves. Adam does not recognize this plant, which is taro. Soon he finds the main river and begins following it inland.

For almost a mile there is an open grassy valley on both sides of the river, which flows along slowly. At many places along the river bank he finds tight clumps of bamboo which soar up to explosions of narrow, pointed leaves. Picking up some young shoots, he finds they make a tasty, crunchy vegetable.

By the time he is a mile upstream from the swamp, the forest wall has moved right up to the banks of the river, blocking out most of the sunlight. Now there are only rare open spaces along the bank where sunlight falls to the ground. At this point along the river bank, in one of the small spaces where there is not much vegetation, he sees thickets of lime trees. Adam is delighted to find this acidic fruit, and he drops several into the gunnysack. Lime juice acts as an insect repellent and is good flavoring for drinks and foods, especially seafoods.

In another quarter mile, Adam is stopped by a tributary which runs in on his side of the river. He finds a spot where he can cross to the west side of the main river. Here he finds bushy wild orange trees. Adam samples the small fruit and finds it somewhat sour but a refreshing change from coconut meat. He adds oranges to the contents of the gunnysack which, by now, gives him a peculiar lumpy belt around his middle.

UPSTREAM: Toward the source; opposite to the direction the water flows.

TRIBUTARY: A stream which flows into a larger stream.

He continues to follow the main river inland. He finds a few more orange trees in the next quarter mile, along with some banana trees.

He discovers there are prawns (large shrimp) in the river and the idea of something meatier to eat pleases him. After working up an appetite thinking about it, he tramps gloomily on his way. He realizes he has no way of catching prawns, at least not right now.

Less than a mile from where he crossed the river, he finds the vegetation changes. There are still many types of trees but they are different from those in the lowland through which he has just come. The trees along the river bank now often are twined with thick vines and bright flowers. He spots small orchids dangling from tree branches, drawing nourishment directly from the humid air. The beautiful flowers delight Adam; eventually he finds orchids all over the island except in the dry western area.

He comes upon the source of the river suddenly at a spring and decides to camp here for the night. Nearby he finds a strange type of banana tree, fei, on which the stalk of large reddish bananas grows upright. The fruit tastes terrible raw so he tries cooking it; then he finds it edible.

LOWLAND: Land at lower elevations. There is no exact boundary between this and upland.

SOURCE: The point at which a stream begins.

There has been a cloud draped over the tops of the central mountains all the while he has been on the island and, in time, Adam realizes that the cloud is always there. However, he can tell that the ridge is lower between the two mountain peaks. So the next morning he sets off due south from his overnight campsite. The uphill climb is steep here and he rests once on a rocky point from which he can view much of the western side of the island.

A half mile from camp he is enveloped by the cloud that covers the mountain tops. Here is an area of permanent dampness where everything drips water. The forest has an eerie look because of the fog and the giant trees. When Adam reaches out to touch one of these trees, his fingers seem to disappear into the trunk. He finds that the entire tree is covered with a thick layer of lacy moss. Tree ferns and orchids dangle from every limb. Sounds are muffled and Adam feels as if he were walking on an ocean bottom.

The ground begins to slope down underfoot so he knows he has crossed the top of the ridge. He continues in a southerly direction and, in a quarter mile, the cloud and the cloud forest end as abruptly as they began. Now suddenly he can see all the way to the southern shore of the island.

He can hear water running not far away and, with his eye, he follows the course of a river down the valley to a large bay. He starts downhill in a southeasterly direction and soon comes upon the river. He walks downstream along the eastern bank. He finds fei along this stretch of river and he notices that the forest here is like that around last night's campsite.

In about a mile first one, and then a second, tributary flows into this river on the west. These river junctions seem to mark a change in type of vegetation, he notes. Just beyond the second junction, he crosses to the west bank of the main river. As he continues downhill, he finds that most of the food plants he has previously discovered grow in this area. This is like the forest that grew around the small, swift river he explored on the first day, he remembers. In a half mile a small tributary joins the river on the east and in another quarter mile the main river slows down and splits in two. The land levels off and he can smell the ocean now.

The ground begins to get springy underfoot and the river disappears into a swamp. He walks around the western edge of the swampy land, then along the beach a short way to the mouth of the bay. The bay is well protected, but the wind chases freely across the beach here at its mouth. In time Adam realizes that the wind blows from the east almost constantly, with occasional northeasterly winds. Waves break in irregular puckers over the fringing reef, and Adam is aware that he missed the ocean roar while he was inland.

RIDGE: A continuous narrow upland.

DOWNSTREAM: Toward the mouth; in the same direction the water flows.

FRINGING REEF: A reef shelf built directly out from shore and partially exposed at low tide.

He walks a half mile west along the beach until he finds a protected spot in which to camp for the night. The patches of sand are black and brown, and rubble made up of rock, shells, and coral covers many sections of the beach. He finds two abalone shells which he packs into the gunnysack. The interior of these shells is lined with mother-of-pearl, a hard substance certain to be useful, Adam thinks.

Along this shore the land rises up steeply from the water. However, the next morning he finds he can wade along the shallow water on top of the fringing reef. It is low tide and he can see from marks on the rocks that the tide changes less than two feet. He has to watch where he steps because the reef surface is irregular. Small fish flee in all directions from his sloshing feet. Adam considers a large bed of mussels he finds on the reef an appealing reason to move to this side of the island. He is fond of seafood--and it's a good thing, too, he thinks, because he is going to be eating a lot of it.

LOW TIDE: The daily lowest level of ocean water along a shore.

TIDE: The regular rise and fall of the water level of the ocean controlled by the gravitational pull of the moon and the sun.

After working his way along the reef for a mile and a half, he comes to a narrow river tumbling vigorously off the mountain. He scrambles inland a short way along the river gorge to get a drink. Returning to the ocean and continuing on his way, he soon finds the land slopes more gently and he can walk on dry beach again. He is glad of this because the coral reef cut the soles of his sneakers. Now he can see the curve of the barrier reef, marked by breaking waves. He thinks, if he could get out to the deeper water along the barrier reef, he could catch some really big fish, maybe even a tuna or small octopus.

BARRIER REEF: A reef rising close to or above the water surface with an area of water between it and the land.

Three miles beyond the first river he comes to another. Walking inland to get another drink he notices that the vegetation is thin. There are pandanus and other trees, but they are shorter and more widely spaced than he has seen elsewhere on the island. Away from the river in both directions he can see open spaces, with dry grass and bushes. This area surprises Adam--it does not look like his idea of a lush tropical island.

He plans to get back to the lifeboat today so he does not take time to explore inland. He continues walking along the shore and he finally approaches the river where he started his exploration. Nearing the swampy river mouth, he startles some black and white terns to flight, where they cry objections to his presence. He has seen tern, Bo'sun birds, and others along the shores and he suddenly thinks to look for nests. He steals a dozen tiny eggs, taking only one from each nest.

Now he is looking forward to an omelet for dinner, hoping the eggs do not break before he gets to camp. He tries wading across the mouth of the river to avoid walking around the swamp. Eventually it gets so muddy underfoot he has to wade out to deeper water, then swim the rest of the way.

He is happy to see the boat, something he recognizes. But, as he looks over the sum of his belongings, he suddenly feels he has very little from which to build his new life.

The preceding material has been adapted for use at this conference. The original chapter contains illustrations and employs a different format. A set of five maps accompanies the student book; these will be distributed to participants at this sesson.

E-2-36

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century.

Topic: Economic Development: The Quest for Material Well-Being.

Title: "Money-Go-Round".

Descriptor: Kids see money, kids use money, kids have money, kids want money. How does it come and go? This simulation experience is designed to provide students with a background for understanding some of the economic forces in action in the community.

Discussion Leader: Margaret Stevenson, New York Elementary School, Lawrence, Kansas.

* * * * *

Money-Go-Round

Cities are the focal points in the occupation and utilization of the earth by man. Most cities are primarily in existence and grow because it is in cities that opportunities for making a living - employment - and other attractions are greater in number and variety than in non-urban situations.

The purpose of this experience is to develop an awareness of, and an understanding of the forces which are responsible for the transformation from rural to urban, and from urban to metropolitan life. Since these forces are, in the main, due to economic factors, the focus of the study is to develop some understandings of economic factors affecting the growth and development of cities.

Money-Go-Round is a simulation experience involving role-playing in the goods and services sector of the economy. It is designed to provide the students with an experiential background from which the following concepts may be developed:

an understanding of the interaction and interdependence implied in economic relationships.

an understanding of the circular flow of money in the economy.

an understanding of the multiplier effect resulting from the interaction and spending in the consumer sector of the economy.

It is also hoped that the students will develop the ability to hypothesize and predict the consequences resulting from the injection of additional investment by a basic activity on the economy and, the reverse, the consequences of basic industry decreasing its investment.

GAME: Money-Go-Round

PLAYERS: Some business people of Anytown, a banker, and Mr. X who represents the rest of the people in Anytown. Each player has a business or manages a business or store. The roles are:

Mr. E. Tumgood who manages a grocery store where the players in this game spend their grocery money.

Mr. Preem E. Yum who runs a local service station where the players buy their gasoline. Mr. Yum has a very good reputation as an automobile mechanic so the players also go to him for automobile service and repair.

Mr. Tom Smith manages a local department store where the players buy their clothing and household items.

Dr. Steth C. Scope represents the people in the medical profession. Medical bills are paid to him.

Mr. O. G. Thrills represents the people who earn their living by furnishing entertainment or selling recreational goods.

Mr. B. U. Tiffel represents the people in Anytown who earn their living by performing personal services such as barbers, beauty shops, cleaners, etc.

PROCEDURE: Each player receives a monthly income and spends this income. Some of this income will be spent on:

Fixed expenses which are due each month and will remain the same each month. These fixed expenses include such things as taxes, housing, and car payments. Each player will also try to save ten percent of his income each month.

Variable expenses are expenses which usually have to be paid each month, but which vary in amount each month. This includes such items as groceries, clothing, household items, medical bills, recreation, and personal services.

Unexpected expenses. Players will find out about these expenses from chance cards after paying their fixed and variable expenses at the first of each month.

End of month activities involves accounting for personal income and business income. Any money left from personal income for a month's play may be added to savings or spent the following month. Business income is money received from other players during the month and is entered on a Business Accounting Sheet. Each player retains a certain percentage of his business income as the part of his income that comes from fellow players. The rest of the money received from business is deposited in the bank to be used for business expenses.

Pay Day begins another month's (or round) play. Each player will have that part of his income which comes from fellow players. They represent only a very small part of the people in Anytown who do business with each other. Mr. X. represents the rest of the people in Anytown who do business with them and the players will receive the rest of their income from him.

PROCESSING: "Readiness for learning comes out of practice in learning and this is something the child must do himself."[1] In any procedure involving a simulation experience -- or so-called gaming-- it is in the processing of that experience from which the learning comes. Listed below are possible questions that can be used to process and learn.

How did the game make you feel?
Did you have enough money to buy everything you needed?
Did you have enough money to buy everything you wanted?
What effect did the tax return have? (This was a chance card which served to take money out of circulation.)
What effect did the surtax have? (This was a chance card which served to take money out of circulation.)
How much of your income came from the spending done by your fellow players? (A chart kept by the banker was kept and students may see the actual dollar result of their spending on each other's incomes.)

To help students make predictions from the background acquired from this experience, speculate as to what might happen if a basic industry in their city expanded operations and added many new workers.

Would expansion by basic industry affect your business? (There would be an increased demand for goods and services.)

Would the need for more people who earn their living by providing goods and services increase?

Suppose a basic industry in your city cut back production or perhaps even stopped operation. What affect would this have on your business? on your city?

---

[1] G. N. Getman, "The Physiology of Development and Learning", R. C. Orem, ed. MONTESSORI FOR THE DISADVANTAGED, New York: Capricorn Books, 1967, p. 78

E-2-39

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-Being.

Title: "The Assembly Line Game: Workers' Welfare U.S. Government Demands on Managers for Factory Production."

Descriptor: To what extent must a person sacrifice himself or his family for the greater good of society? Since this issue is played out in a highly mechanized factory setting within a highly industrialized state, the child, if he is to become involved emotionally and intellectually in this conflict, must have some understanding of the complex relationships in a modern industrialized state. This lesson, through the use of an assembly line simulation, provides the student with knowledge of the operation of men and machines and how they are organized for production from the assembly line workers viewpoint. Later, the simulation focus is on the interdependence of the assembly line with other transportation and production facilities of the state. This simulation is from the unit entitled "Russia" and is part of an issue discussion series. The authors are Harold Berlak and T. R. Tomlinson of the Metropolitan St. Louis Social Studies Center, Elementary Social Science Project.

Discussion Leader: Donna Duchek, Pitman School - the Optional Elementary School, Kirkwood, Missouri.

Russia Unit, Lesson 7, Teachers Guide.

Overview:

This lesson, through the use of an assembly line simulation game, provides the student with knowledge of the operation on men and machines and how they are organized for production from the assembly line worker's viewpoint. This lesson stresses the worker's role in production.

This lesson complements Lesson 8 which focuses on the interdependence of the assembly line in the Zis Truck Works with other transportation and production facilities of the Soviet Union. This lesson also continues to set the context for the dilemma which will emerge clearly in subsequent lessons: the conflict between the individual worker's welfare and the demands that government leaders, responsible for general welfare, make on their managers of factories for specific factory production.

Specific Objectives:

1. to understand how the assembly line, as a means of mass production, operates, specifically focusing on:
    a) the specialization of labor, and
    b) the interdependence of worker, machine with other workers, machines.

2. to understand certain factors that take place within the factory that affect production:
    a) the effect of speed-up on the line and on the quality of the product, and
    b) on the safety of the worker.

Cluck Flag Factory Assembly Line Simulation Game

Strategies:

The Assembly Line Game provides an opportunity for the students to transfer what they have just seen and heard to learning an actual assembly line situation. The Assembly Line Game provides the teacher with a great number of opportunities to reach the objectives of the lesson.

Once the flag assembly line is set up as suggested in the diagram, and the students begin production on the "line" problems are sure to emerge: the Circle Cutters are too slow or the Flag Colorers don't have enough flag material because the Flag-rag cutters are too slow, etc. Obviously something is wrong with the line. What has happened? The line is bogged down? Why? What to do? It seems to need better coordination; maybe more men at the Star-Circle Paster Section. It is impossible to suggest the most efficient way to set up the line since the ability and ingenuity of the students varies so greatly.

So the problems and factors of production as listed in the lesson's objectives for the students to understand become real experiences. And the solving of the problems with managerial leadership becomes obvious too.

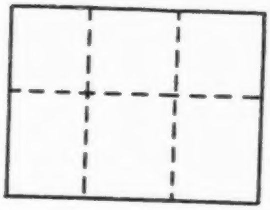
Suggested questions: What happens if we speed up? What happens if a worker works too slowly or leaves his job? What happens if you run out of paste, or crayons? Is it faster to make flags this way than for each person to make his own?

Phase-in to Lesson 8: Lesson 8 deals with management and the interdependence of one plant with another as the director attempts to devise a plan for meeting the new Gosplan Quota. As the Assembly Line Game continues we phase into Lesson 8 in which managerial problems and external plant problems emerge. At this point, the teacher can phase in to Lesson 8 with a pivotal question. For example, what happens when we run out of parts (not enough flag poles)? Who must decide how to make the line work better? Who shall set the quota for flags?

Copyright, 1967
Harold Berlak and T. R. Tomlinson

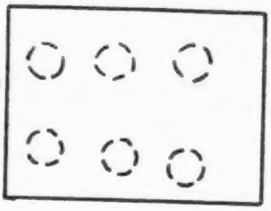
E-2-42

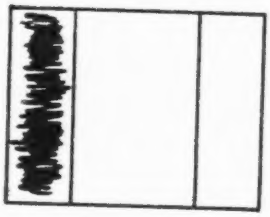
Each section may include the number of students that seems necessary to keep the line moving efficiently. The "workers" may have to be reassigned from time to time, according to the "Manager's" instructions.



flag-rag cutter's
section

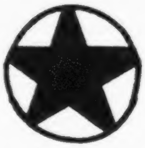
circle
cutter's
section

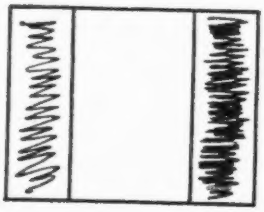




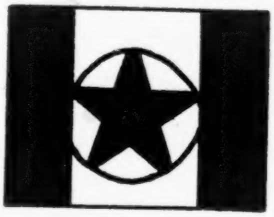
flag painter's
section #1
(Yellow)

star painter's
section



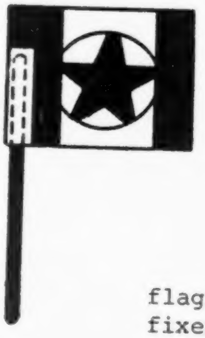


flag painter's
section #2
(Orange)



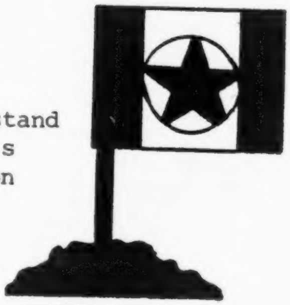
circle/star
paster's
section

flagpole painter's
section (Black)



flagpole joiner's
section

flag-stand
fixer's
section



Copyright, 1967
Harold Berlak and T. R. Tomlinson

E-2-43

ship to: ISLAND OF CLUCK

from: THE FLAG-RAG COMPANY, INC.

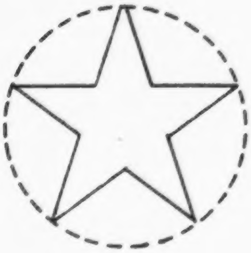
cut on dotted lines

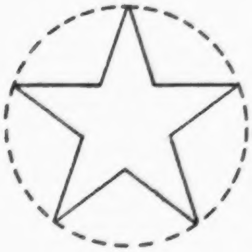
Copyright 1967
Harold Berlak & T. R. Tomlinson

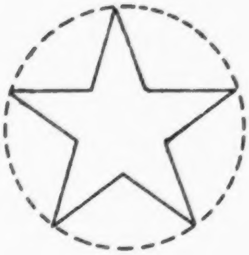
E-2-44

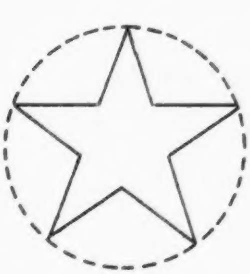
ship to: ISLAND OF CLUCK

from: THE SPARKLING STAR COMPANY, INC.









Copyright 1967
Harold Berlak & T. R. Tomlinson

Issue:	Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	Economic Growth: The Quest for Material Well-Being.
Title:	"The Physical and Cultural Limits to Economic Growth."
Descriptor:	Why be a rancher? Would you rather be a farmer or a rancher? By role playing a class of fifth or sixth grade pupils, session participants will use Geographic Sample Study materials to develop answers to these questions. Pages 2, 3, 26, 53, and 56 from Teachers Manual for Geographic Sample Study and Geographic Sample Study (Sources 14 and 43) by de Leeuw, Gary J. and De King, Leon R.; The Research and Development Center for Teacher Education, 1970, Austin, Texas.
Discussion Leader:	Leon R. De King, Department of Education, Texas A&I University at Laredo, Laredo, Texas.

* * * * *

"The Physical and Cultural Limits to Economic Growth."

Definition of Sample Study

The sample study is an inquiry-oriented, case study technique for teaching geography of which the following is true:

1) the primary responsibilities of the teacher are to present the pupils with materials that depict a small region and to ask questions to stimulate pupil discovery.

2) the essential character of classroom materials is non-expository.

Expository materials and expository teaching strategies attempt to elucidate and interpret information for the learner. Conclusions are presented to the learner in predigested form. When exposition is at its best the writer or teacher conveys precise meanings in an efficient manner. Non-expository teaching methods and materials are constructed to maximize the extent to which the learner constructs meanings for himself.

3) the major objectives of sample study teaching are to stimulate in the classroom the inquiry processes of geographic field study, and to provide a framework of concrete experiences for geographic concepts.

In a typical sample study the teacher presents maps, photographs, charts, graphs, accounts of interviews and other geographic source materials that together depict small areas, such as mixed farms, ranches, pulp mill towns, mountain villages, or city neighborhoods. The teacher raises questions to help pupils interpret the materials, generate hypotheses, and confirm conclusions. One of the instructional goals of the sample study technique is to help pupils generalize about human activities and physical processes in wider areas, like ranching regions or city slums. The sample study technique is to help pupils develop skills, conceptions, and values of geographic inquiry.

Topic E

Overview

This topic is addressed to the understanding that ranching is a less productive land adaptation form than farming and generally occurs in areas where one or more physical conditions effectively eliminate farming as an alternative. The activities included in this topic's three encounters use and extend pupil's hypothesizing and evaluating skills. Map, chart reading and interpreting skills are also exercised and extended.

Encounter 1

Objectives: Pupils will be able to:

A. Read map symbols.
B. Infer that mapped ranch is on rougher terrain than the farm.

Materials:

Source 14 (Map of an American Ranch and an American Farm)

Encounter 2

Objectives: Pupils will be able to:

A. Interpret chart symbols.
B. Associate ranch and farm maps to ranch and farm production charts.
C. State that farms are more productive than ranches of comparable size.
D. Hypothesize that most ranchers would be farmers if they could.

Materials:

Source 14 (An American Ranch and An American Farm)
Source 43 (A Comparison of One Year's Production On a Ranch and a Farm)

OVERVIEW OF TOPICS

(Examples of Sample Study Instructional Plans)

TOPIC A	Introduction to Sample Study Three encounters involving pupil interpretation of introductory booklet	Questions: Who are the Williams' family? Where do they live? Time: 1 - 2 hours
TOPIC B	Extending Concept of Ranching I One encounter involving pupil interpretation of photographs, maps, and charts	Question: How does Mr. Williams earn a living? Time: 1/2 - 1 hour
TOPIC C	Studying Ranch Resources Three encounters involving pupil interpretation of multiple sources and construction of a display	Question: What is the Williams' Ranch like? Time: 3 - 4 hours
TOPIC D	Locating the Sample Area One encounter involving reading and interpreting road map and small scale wall map	Question: Where in Texas is the Williams' Ranch? Time: 1/2 - hour
TOPIC E	Extending Concept of Ranching II Three encounters involving interpretation of photographs, maps and charts	Question: Why is the Williams' land used for ranching? Time: 1 - 2 hours
TOPIC F	Studying Impact of Modern Technology Three encounters involving interpretation of photographic slides and movies	Question: What is work on the ranch like? Time: 2 - 3 hours
TOPIC G	Studying Changing Ranch Resources One encounter involving interpretation of photographs and maps	Question: How has the ranch changed? Time: 1 hour
TOPIC H	Extending Concept of Resource Conservation Three encounters involving interpretation of tape recording and photographs	Question: How are ranch resources conserved? Time: 1 - 2 hours
TOPIC I	Studying Future Land Use Two encounters involving interpretation of maps, photographs and tape recordings	Question: What might the Williams' ranch be like in the future? Time: 1 - 2 hours

Source 14

The uppermost of these two maps shows a grain and cattle farm in North Dakota. The lower map shows a cattle ranch in Colorado.

Questions:

1) Which is larger in area, the farm or the ranch?
2) Which one appears to be located on rough land?
3) Which probably receives the most precipitation (rain, sleet, snow)?
4) Which is mostly cultivated land?
5) Make an hypothesis to suggest which would produce the most food.

Source 43

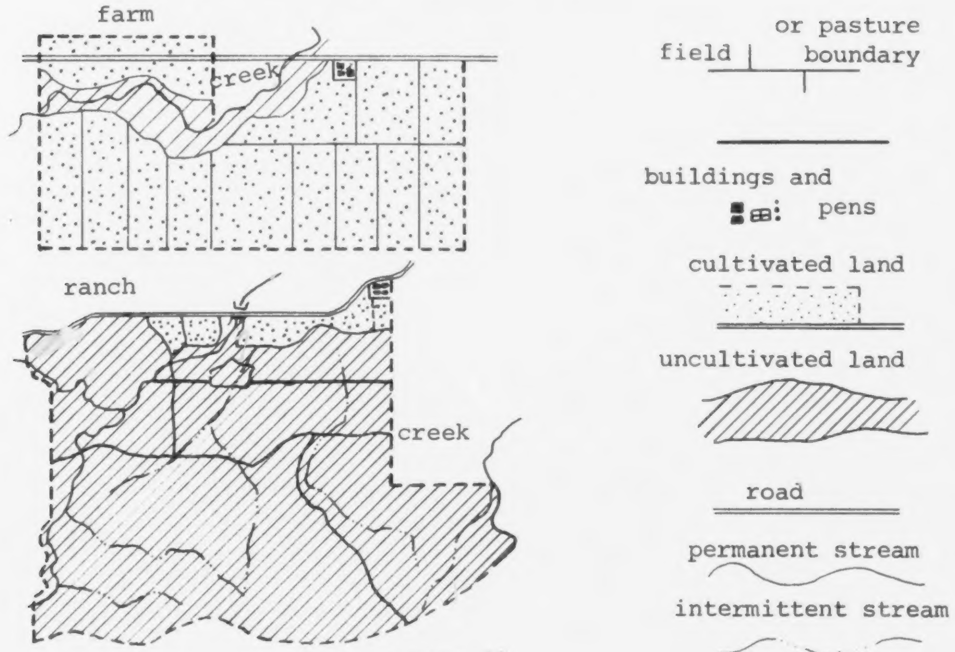
The chart on this source compares the amount and kinds of food produced by a ranch and a farm in one year.

Questions:

1) Which produces more food in one year, the ranch or the farm?
2) If each truckload of grain will bring more money than several cattle, which produces more income, the farm or the ranch?
3) Which produces more food per acre, the farm or the ranch? Which produces more profits per acre?
4) Suggest what might happen to many ranches if it somehow became possible to farm the ranch land.

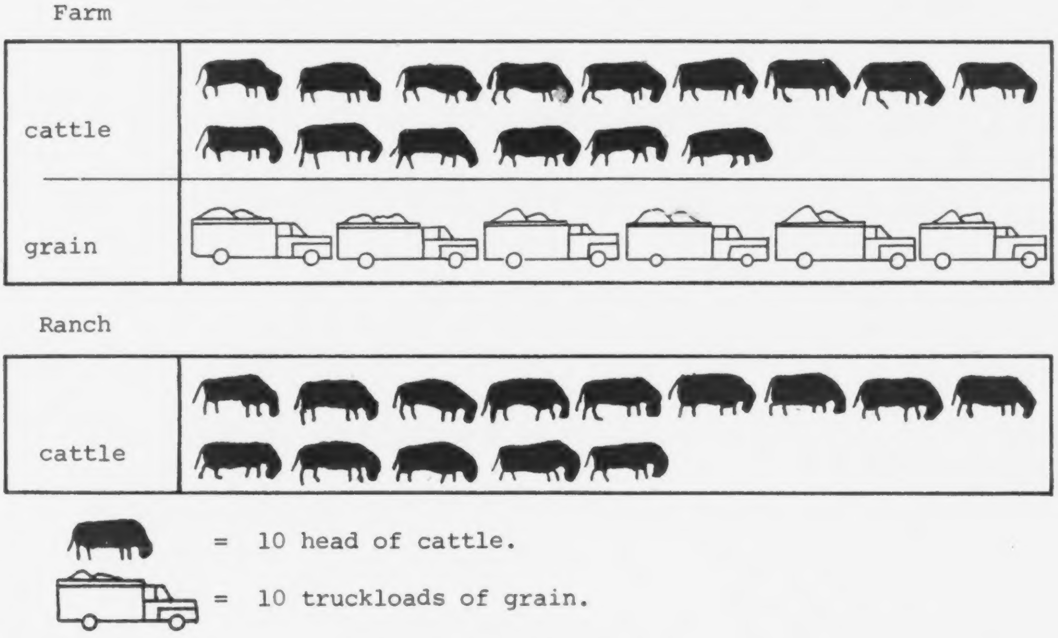
Source 14

AN AMERICAN RANCH AND AN AMERICAN FARM


farm
creek
ranch
creek
field or pasture boundary
buildings and pens
cultivated land
uncultivated land
road
permanent stream
intermittent stream

Source 43

A COMPARISON: ONE YEAR'S PRODUCTS ON A FARM AND A RANCH



E-2-50

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-Being.

Title: "Ricky and Billy's Dollar Vote."

Descriptor: "Ricky and Billy's Dollar Vote" is a summary of a unit designed to stimulate learning Economic Geography.

Discussion Leader: O. L. Burney, Central Elementary School, Idabel, Oklahoma.

* * * * *

"Ricky and Billy's Dollar Vote"

Some boys in our class had purchased their jeans from Sears, Roebuck. Since Idabel had an industry known as Kellwood which made pants for Sears, it was felt that this was a good resource to use in promoting economic education to sixth graders. Idabel, the County Seat of McCurtain County is growing rapidly. Houses are scarce, schools are crowded, the town is expanding. Many problems are showing up due to industry locating in the area.

Starting with the concept that all societies allocate their natural resources to meet the wants and needs of their people, old and new resources were examined, starting with producing the cotton which went into making the pants. It was learned how farming has changed, how cotton acreage has been cut and why the farmer uses more machinery today. Stress was placed on labor leaving the farm and moving to the city to work in industry. The local cotton market was studied and this tied the study to the textile industry which had to be done by films and research. The study continued with the Kellwood industry buying the cloth to make the jeans. The jeans were seen being made and stress was placed on consumer wants helping to determine what is produced in our economy. The study was carried from Kellwood to the Kansas City Market and then to Sears retail at Texarkana. We also studied the Sears Mail Order Store and how Ricky and Billy obtained their pants and the cycle was complete.

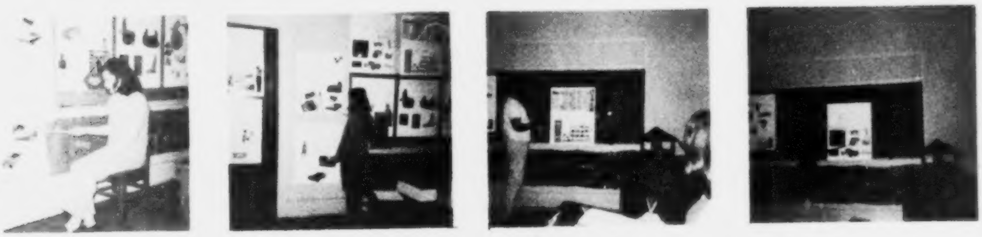
Stress was placed on competition being an important factor in our economy. The students saw how man-made products were affecting the cotton farmer as well as the textile mills which were set up for cotton threads, and how competition helps the consumer in a market economy by the producers striving to meet the wants of the consumers and still making a profit.

Ricky & Billy's Dollar Vote.

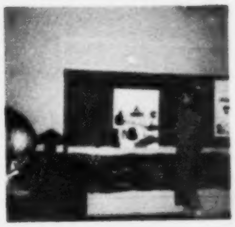
"Opportunity Cost" A problem approach.

Trip to Bank.

Visit to Vault.



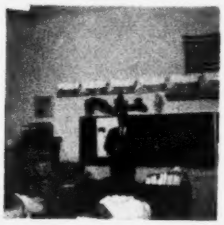
Posters made by students on economic terms and concepts.



Kellwood Industry Makers of jeans for Sears.

E-2- 52

Super market.



Manager visits classroom.

In the store.

Getting information
on order techniques

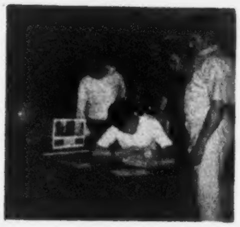
Automation in meat market

Interdependence:
Seeing the truck unload
& meeting the driver.

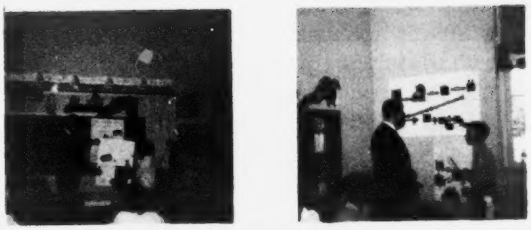
ASCS Office. Government controls on cotton.

F.H.A. Office to learn about Government loans.

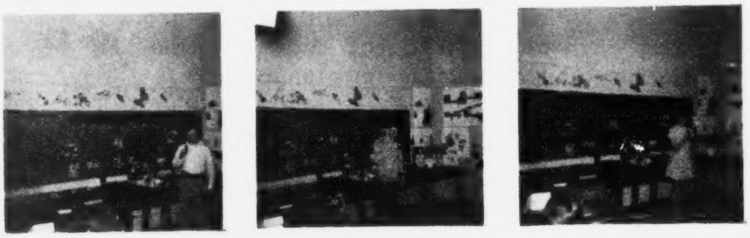
Sears mail order store.



Making out mail orders for jeans.



Children explaining work to class visitors



Billy, Ricky, and Jill
wrap up the study

"Planning" Class
Group Work.

"Rainy Day

Stock Market Game

Visiting teacher and Central School
Principal looking at the finished scrapbook.

E-3-54

Issue: Socialization: Frontiers, Melting Pots, and other Myths.

Topic: Migration: Mayflowers Old and New.

Title: "Harlem & New York City" from: "The Autobiography of Malcolm X."

Descriptor: Short descriptive passages from literature can function as a data source for geographic concepts. Participants will serve as students and will be asked to recognize - to generate - geographic concepts from the passages. The selected concepts will be employed as springboards into a discussion of general geographic topics such as the spatial pattern of New York City. Participants will then enter a debriefing dialogue with the staff members about the materials, the guided inquiry instructional strategy, and the appropriateness of the approach for students with reading and/or motivational problems.

Discussion Leader: John E. Steinbrink, Department of Geography, University of Oklahoma, Norman, Oklahoma.

* * * * *

GEOGRAPHIC CONCEPTS AND CONTEMPORARY LITERATURE

The selection from the Autobiography of Malcolm X narrates the historical sequent occupance of Harlem by several different ethnic groups. The passage describes the scorn that each group held for those who replaced them, dramatizing the fallacies of the melting pot theory.

The purpose of using short descriptive passages from literature to help secondary students develop geographic concepts is threefold: 1) To capitalize on the fact that the spatial dimension is "here, now and visible", that is, contemporary, concrete and empirical, and is an integral component of literature and the human condition; 2) To generate relatively sophisticated concepts with a minimum of reading in order to motivate and involve students with reading problems; 3) To dramatize the fact that contemporary social issues are innately spatial.

Objectives: To recognize the spatial dimension in literature.
To identify and analyze specific social science/geography concepts in short literary passages.
To develop a spatial perspective that can be employed to analyze contemporary problems such as poverty, racial injustice, urban problems, and the environmental crisis.

Strategy: The students are asked to read short passages and respond to them. Guided discussion is employed to generate the basic concepts and to demonstrate how these concepts are contained in the passages.

Selection A. The Autobiography of Malcolm X, p. 81

That, in fact, was one of my biggest surprises: that Harlem hadn't always been a community of Negroes.

It first had been a Dutch settlement, I learned. Then began the massive waves of poor and half-starved and ragged immigrants from Europe, arriving with everything they owned in the world in bags and sacks on their backs. The Germans came first; the Dutch edged away from them, and Harlem became all German.

Then came the Irish, running from the potato famine. The Germans ran, looking down their noses at the Irish, who took over Harlem. Next, the Italians; same thing--the Irish ran from them. The Italians had Harlem when the Jews came down the gangplanks--and then the Italians left.

Today, all these same immigrants' descendants are running as hard as they can to escape the descendants of the Negroes who helped to unload the immigrant ships.

Concepts:

1.

2.

3.

4.

5.

E-3-56

Section B. Fifth Business, Robertson Davies, 1969, novel, p. 10.
(Setting: S. Ontario, 1900)

It was called Depford and lay on the Thames River about 15 miles east of Pittstown, our county town and nearest big place. We had an official population of about five hundred, and the surrounding farms probably brought the district up to eight hundred souls. We had five churches: the Anglican, poor but socially supreme; the Presbyterian, solvent and thought--chiefly by itself--to be intellectual; the Methodist, insolvent and fervent; the Baptist, insolvent and saved; the Roman Catholic, mysterious and solvent....We did, however, look with pitying amusement on Bowles Corners, four miles distant and with a population of one hundred and fifty. To live in Bowles Corners, we felt, was to be rustic beyond redemption.

Concepts:

1.

2.

3.

4.

5.

Section C: Them, Joyce Carol Oates, novel, winner of National Book Award for fiction, p. 22. (Setting: contemporary Detroit)

This was a city on a canal that had grown up around the canal, spreading out with bumps and hollows of still vacant land and other areas of tenements. The main business was a steel plant that employed one-fourth of the men, and factories of other types and railroad yards and big warehouses.

Concepts:

1.

2.

3.

4.

5.

E-3-58

Issue:	Socialization: Frontiers, Melting Pots and Other Myths.
Topic:	Migration: Mayflowers Old and New.
Title:	"DeKalb's Growing Pains and Problems: The Why and How We Grow."
Descriptor:	In DeKalb, children experience many new classmates, new subdivisions, new shopping centers. By an analysis of the maps, charts and pictures the why and how of growth is explained.
Discussion Leader:	Charlotte J. Ainsworth, Lawrenceville, Georgia

* * * * *

"DeKalb's Growing Pains and Problems: The Why and How We Grow."

I. Facts about Atlanta
  A. Importance as capital and transportation center
  B. Importance as southeast regional home for government and industry
  C. Composition of population

II. Facts about DeKalb County
  A. Location relevant to Atlanta
  B. Growth since 1960
    1. In population and housing
    2. Reasons for growth
    3. Sources of growth
    4. Effect of growth on buying power
    5. Effect of growth on composition of population

SOURCES:

DeKalb County Chamber of Commerce, 515 Decatur Federal Bldg. Decatur, Ga.
DeKalb Planning Board 1970 Preliminary Land Use Plan
DeKalb County Housing Needs Analysis, State Planning Bureau
1970 Population and Housing, Atlanta Region Metropolitan Planning Commission
DeKalb County Board of Education Study of In-Migration of Pupils 1969-70

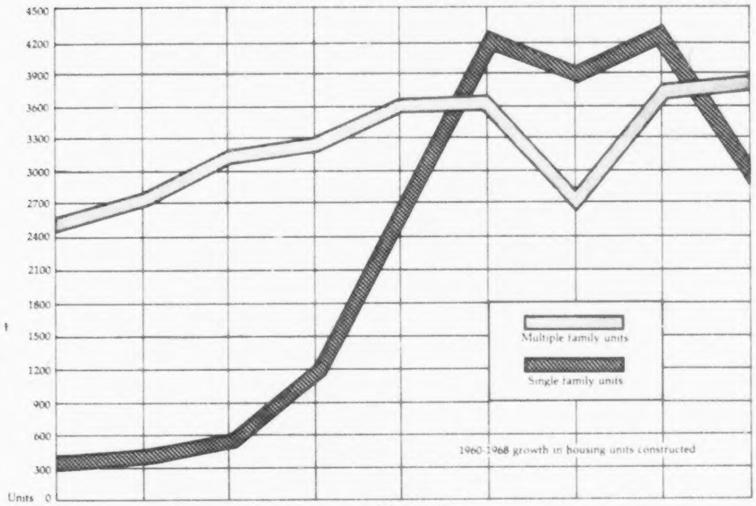
To use the materials collected for the session on DeKalb's growth, one must first of all consider the age level of the group participating. The younger the age of the group, the more teacher directed background material will be needed.

The maps illustrate the widely distributed origins of the migration into the county, while the bar graph shows the number from the various areas. Both indicate a great mobility of population.

From information as to the location of DeKalb, reasons for this influx can be deduced.

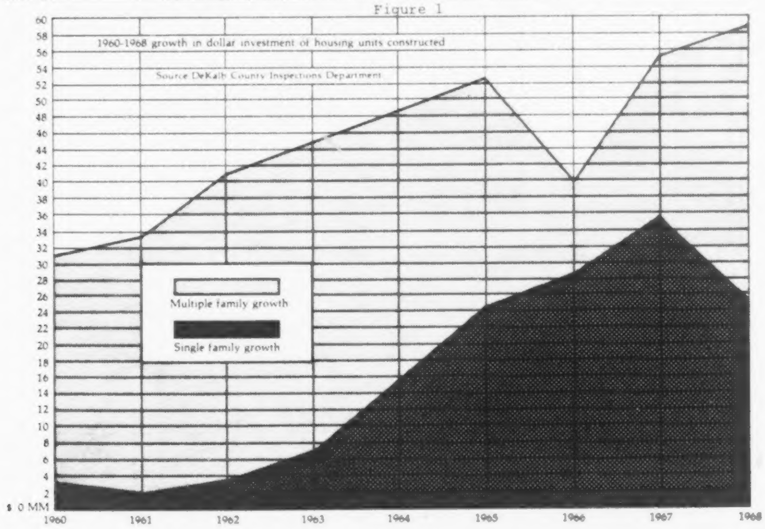
The increase in housing construction, types, concentration, and income chart all bespeak the class level of migration.

From all these materials some ideas of problems related to use of space by industry, housing and education can be deduced.



1960-1968 growth in housing units constructed

Figure 1

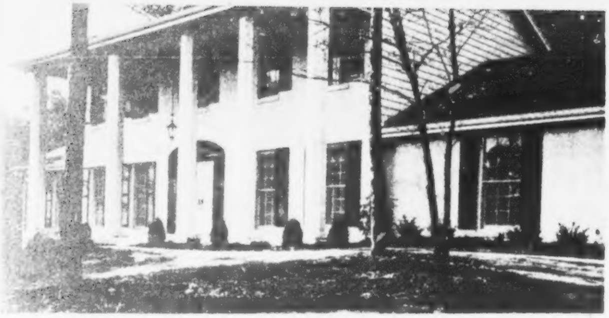


1960-1968 growth in dollar investment of housing units constructed

Source DeKalb County Inspections Department

Figure 2

E-3-60



Dunwoody Club Forest

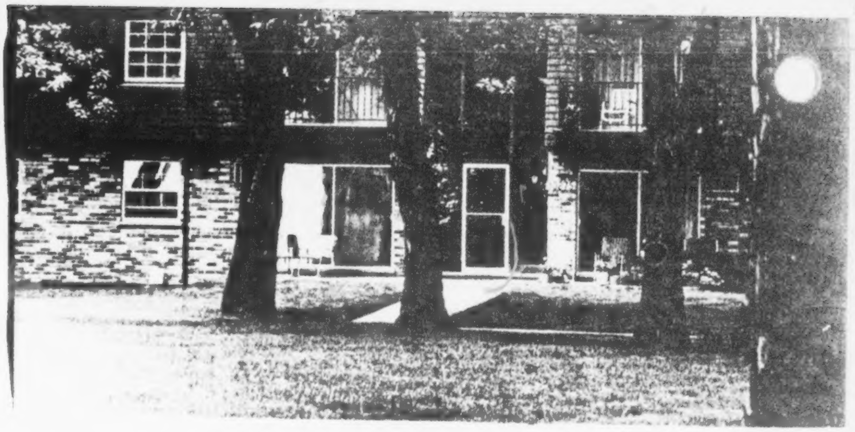
474 LOTS

homes priced from $65,000 - $100,000

Vernon Ridge

76 LOTS

homes priced from $50,000—overlooks Atlanta skyline from the highest point in DeKalb County

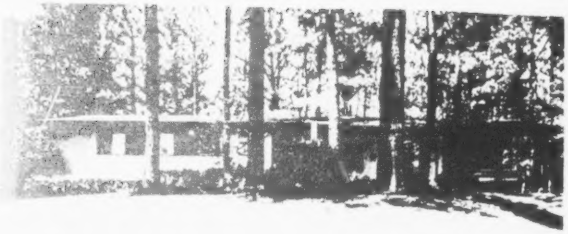


Georgetown

OF ATLANTA

Private entrances • patios • balconies • sound-conditioning • air-conditioning • party house • Olympic-size swimming pool • tennis courts • • 15 minutes to Lenox Square • professional maintenance • maid and valet service available • guest suite • easy freeway access • minutes from city bus service • shopping center nearby

APARTMENT.
AND TOWNHOUSES
.2. & 3 Bedrooms Rental
Rentals Start at $142.00



SMART CONTEMPORARY!

3 bedrooms, family room, 2 baths. **$20's**

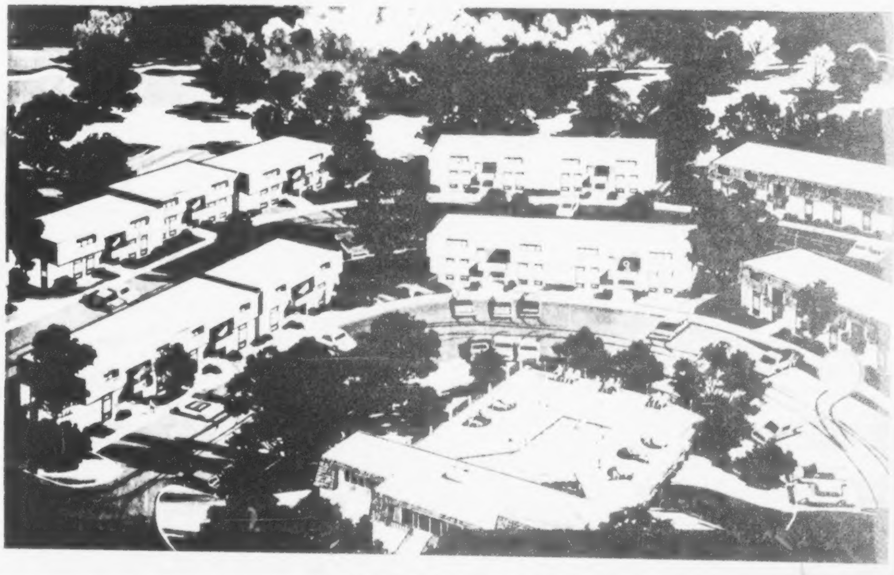


Figure 3

ARMPC HOUSING DISTRICTS AND
CENSUS TRACTS - DEKALB COUNTY

POPULATION 1970
1 DOT = 1,000 PERSONS

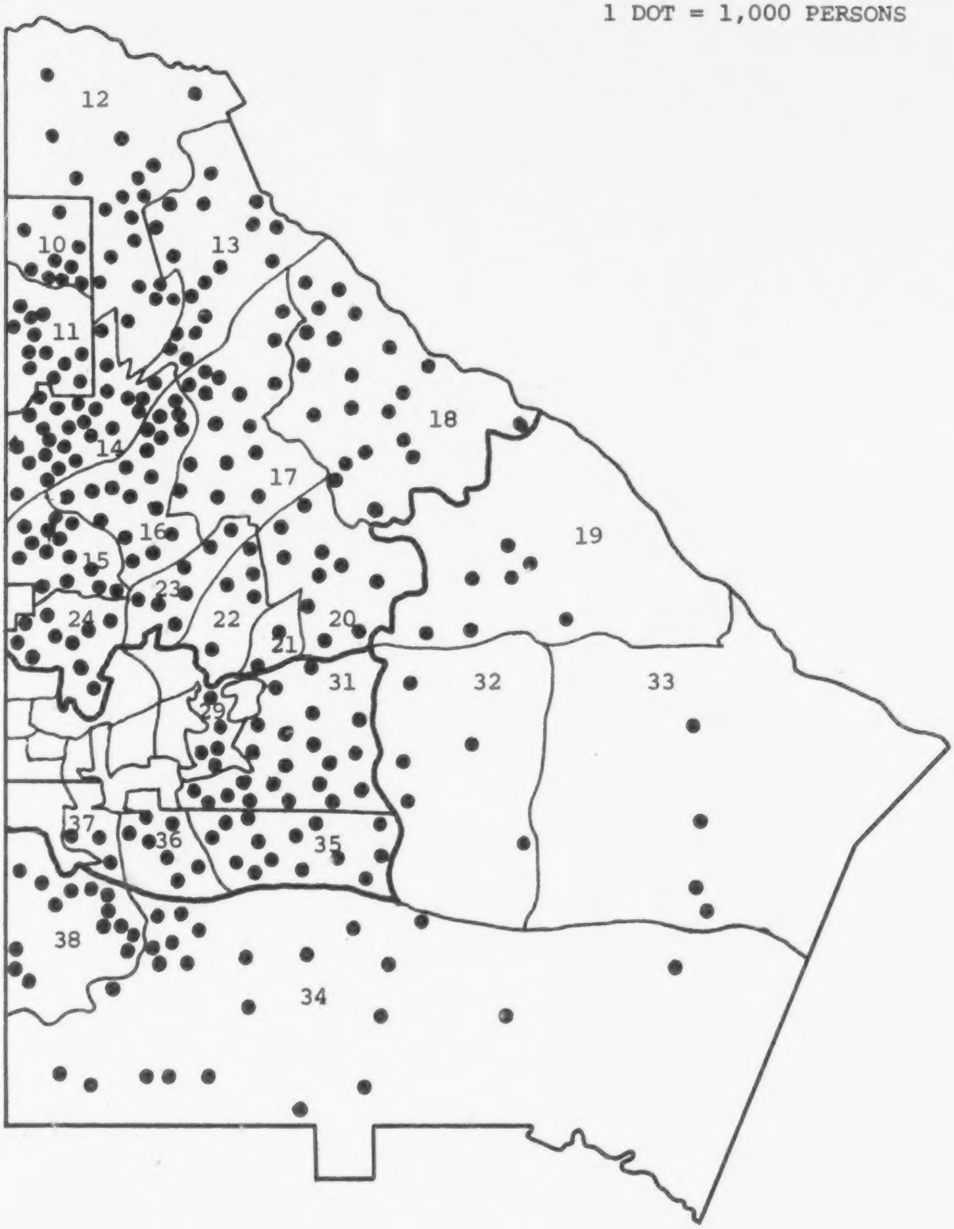
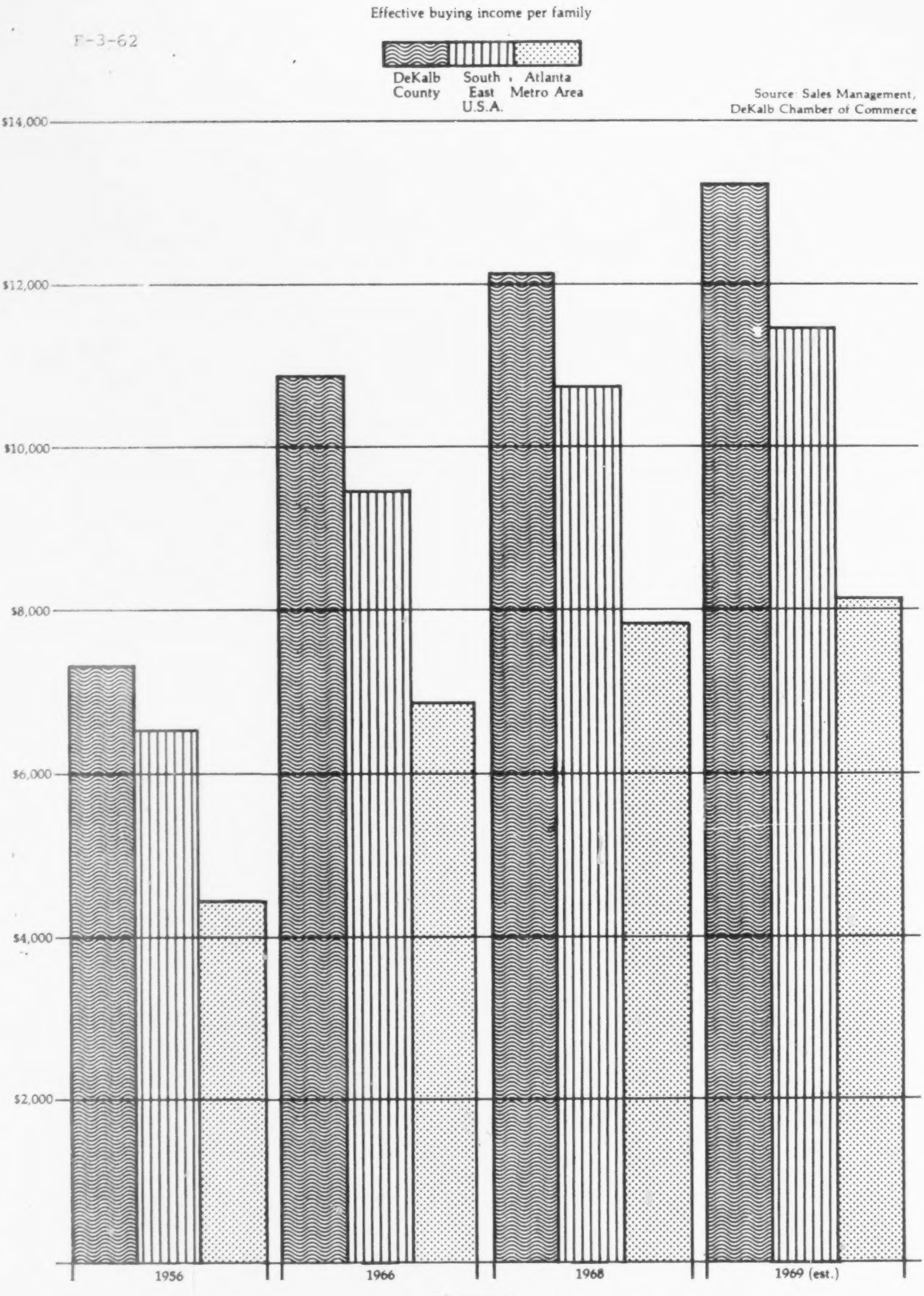

12
13
10
11
14
17
18
19
16
15
23
24
22
20
21
31
32
33
29
37
36
35
38
34

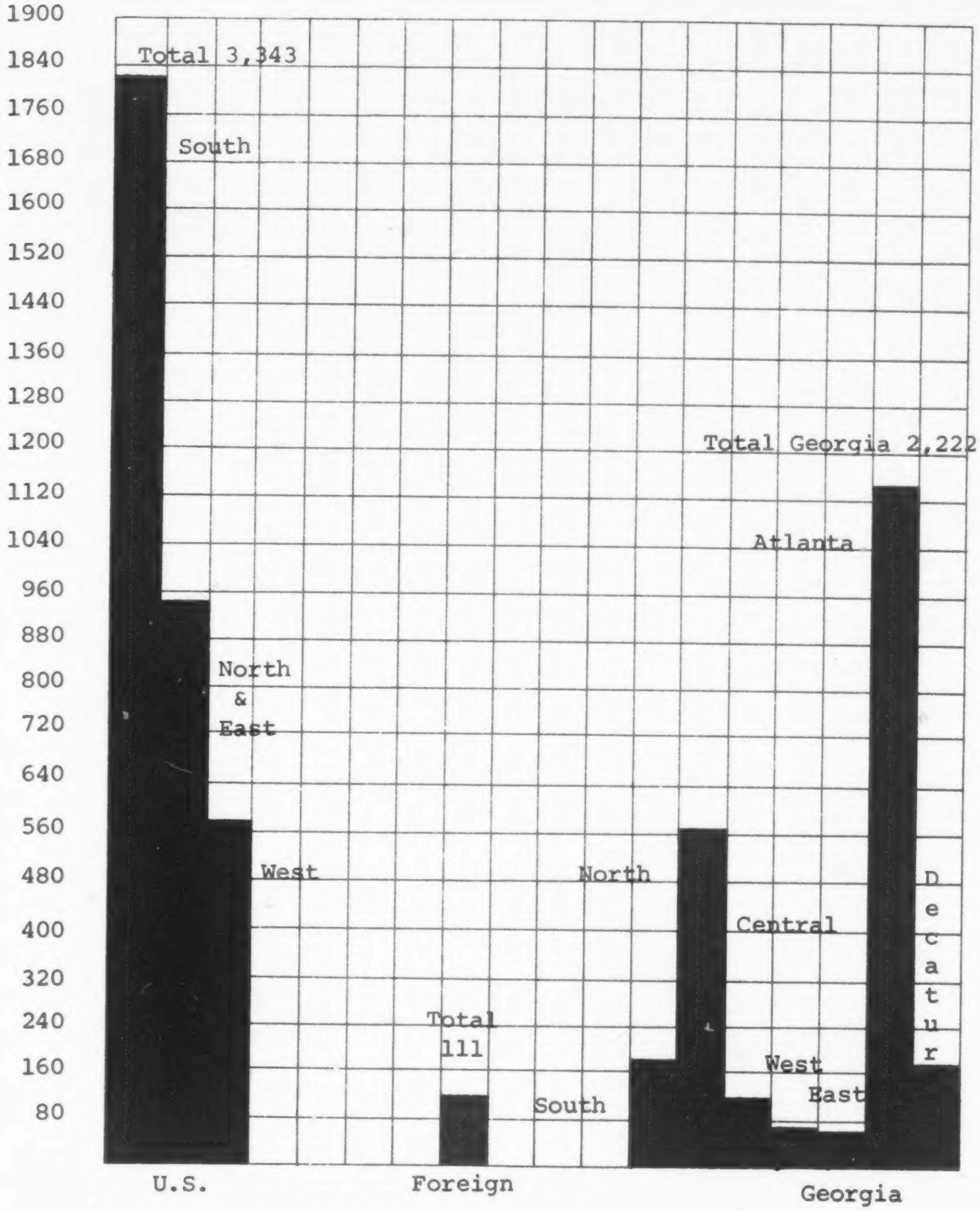
Figure 4

F-3-62


Effective buying income per family

Source: Sales Management, DeKalb Chamber of Commerce

Figure 5



Source: Board of Education, DeKalb County, Georgia

Figure 6

Sources of U.S. In-Migration to DeKalb 1969-70

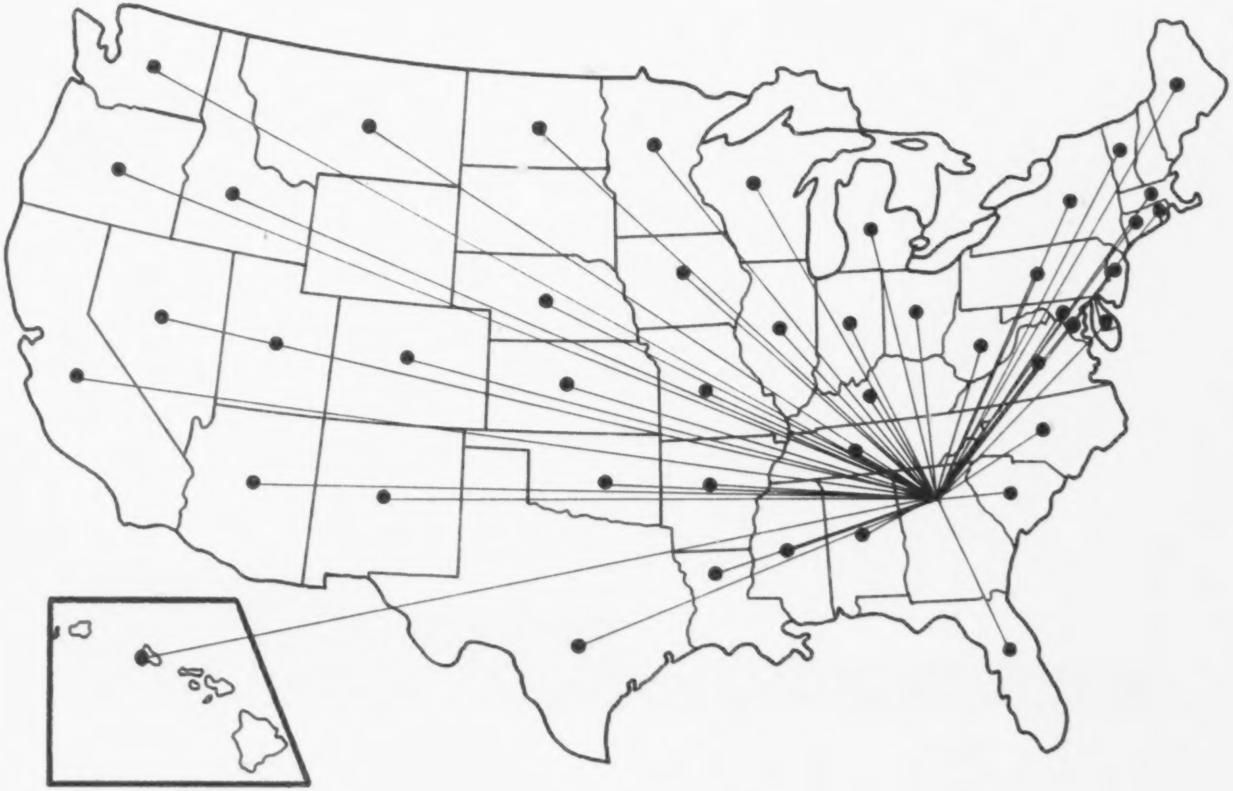


Figure 7

Sources of Foreign in-Migration to DeKalb 1969-70

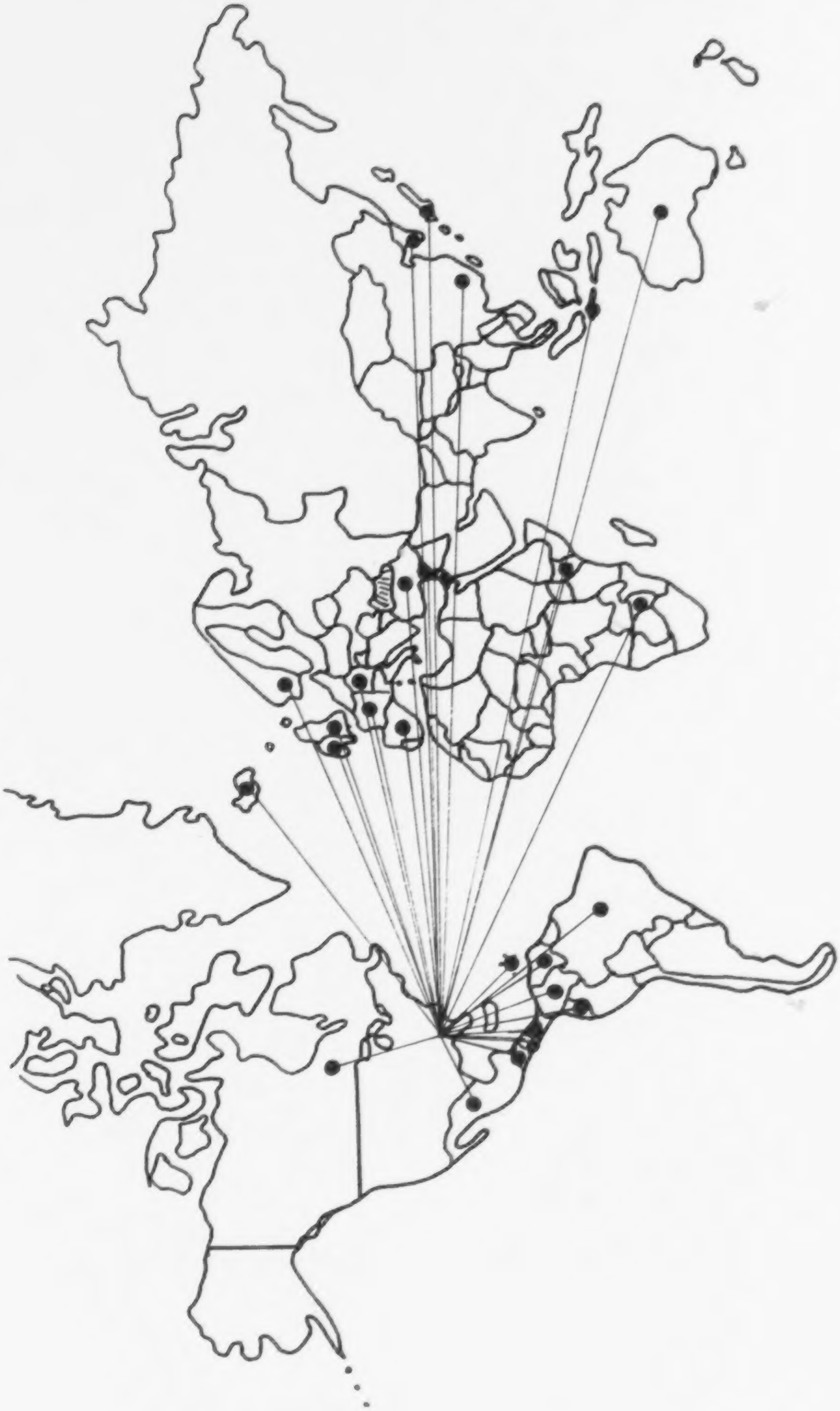


Figure 8

E-3-66

Sources of Georgia In-Migration to DeKalb County, 1969-70.

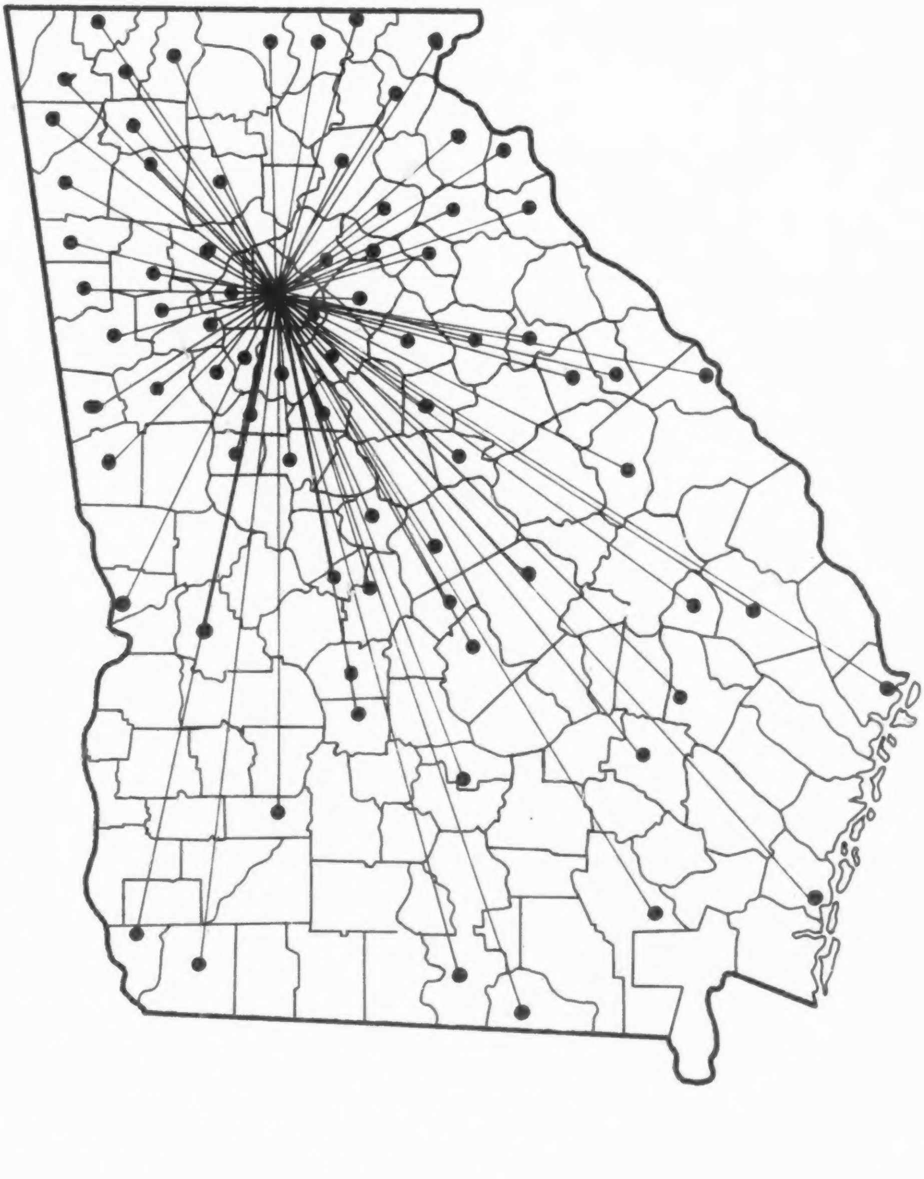


Figure 9

Issue: Socialization: Frontiers, Melting Pots and Other Myths.

Topic: Migration: Mayflowers Old and New.

Title: "Up, Up and Away--Another School Next Year?": or "Children's Perception of Population Stability."

Descriptor: Many children move sometime during their elementary school career. Just what percentage of Brookwood students were new this year? What percentage had moved sometime since they started grade school? What was the average distance moved? Why did their families move? How would "I" decide where to move if a move were necessary? To answer these questions the students, with the teacher's help, devised a questionnaire, conducted a survey, compiled and studied their data. They also helped devise a role playing game where they could put their newly discovered concepts to use.

Discussion Leader: Dorothy Teel, Brookwood Elementary School, Overland Park, Kansas.

* * * * *

How to use the material:

1) use of additional materials, but similar to the printed pictures and graphs.
2) comments on how the activity was conducted in classroom and answer questions that are asked.
3) use the role playing game with the group.

Simply use the questionnaire and its explanation as a guide in developing your own students research on the topic of mobility. Simplify or make the material more difficult to meet your particular grade level needs.

Use the role playing game by enlarging it onto a sturdy tagboard. A suggestion would be to make process more difficult by having other maps of the same continent showing natural features and resources. Then each student would have to study several maps to make the decision of where to move.

Copy each role onto file cards. Omit or add role cards as necessary for level and locale.

Salespitch: Here's to an interesting experience in developing insights into our country's mobility, developing skills in questioning, compiling and using data, and in using maps. AND, it's always fun for students to find out about their own school.

E-3-68

Move to Robford

Directions for playing the game. Study your copy of the map of the continent of Robford. You may add any information not given on the map, such as rainfall, temperatures, and land uses. Draw a role card and from the information on it decide where you are now living and where you will move. When it is your turn you are to go to the large wall map of Robford and show where you are now living and where you will move. You must tell why you are moving and give reasons for selecting the particular place you choose.

Following is a copy of the role cards for you to use:

1. I am 19 and work part time in my father's grocery store in Isola. I want to move to a larger town, not too far away where I can go to college.

2. I am a door-to-door salesman living in Kent. I have seen most of the families here and need to move to an area where my product will be new and will sell well.

3. I am an opera singer. I live in the north but it gets too cold in the winter. I need to go where I can get a good job and I don't want to sing in clubs or lounges.

4. I am a miner and I broke my leg in a cave-in. I need to move where there would be some outdoor work I could do.

5. I own a dress shop in Essex. I want to move to another town and open a second shop.

6. I am an artist and I want to live where there is a wide variety of scenery to paint.

7. I am a secretary for large firm but they are having money problems at this time and I need to move to have a job.

8. I am a prison guard and live in Rose City. I am going to move because they are tearing down the prison and because I am getting old.

9. I am a real estate salesman living in Oaklyn and I want to move where there will be more business.

10. I am a farmer living near Noel but we do not get enough rain to grow corn. I need to move where the climate is better suited for corn.

11. I am a nurse and the hospital I work in is being closed because of lack of patients.

12. I am a bank robber and the police are looking for me. I want

to escape over the border as the police in the two countries do not help each other.

13. I work in a steel factory in Weston. The government is closing the factory because it refuses to do anything about its pollution. I want to move to a smaller town and change occupations.

14. I am a worker in an atomic power plant and I have been transferred to the capital where I will be an advisor.

15. I am a newspaper writer in Lee. I want to move to a bigger city where I can get higher pay.

16. I live in Worth and I just signed to play pro football. I need to move closer to the team.

17. I am a college student but I did not make good grades so I have to quit college and go to work. I don't want to move far from my friends if I can find work I can do.

18. I am a piano teacher and my husband's company transferred him so I have to move and start finding new students.

19. I am a priest and I am moving to the ghetto so I may teach the children and give them food from the Christian Association.

20. I am a postman and I do not like the hot summers in Lee so I have applied for a transfer.

21. I work in a bakery in Issue and my employer is moving me to a smaller town to supervise a new bakery for him.

22. I am a worker in the loan department of the Bank at Progress. I have been offered a better position so I will be moving to _____.

23. I am a beauty operator and not married. I want to move where I can meet more people my age.

24. I work for the weather bureau and have been transferred to the southernmost station on the continent.

25. I live at Rockpoint and work in the seashore park. The park service wants me to get some experience in working in mountain parks.

26. Our family must move from the town of Lee because our daughter needs a cooler climate where her allergy won't bother her so much.

27. I am a meat cutter in Newberg and the packing plant is closing. I want to go to work for a chain grocery store in their meat cutting department.

28. I have been working in a service station in Troy but now that

it is summer and so hot we won't have enough tourists so I have been laid off.

29. I have been Chief of Police at Essex and I want to move to a larger town where I can make further advancements.

30. I am a farmer living near Hall. I do not like the educational system for my older children. I want to move to a nearby town where they will have better educational advantages.

* * * * *

Directions for using the questionnaire:

Each team of two students was appointed to survey a room in our school. They obtained permission from the teacher as to when they could talk to the class. After all the rooms had been surveyed the material was compiled by student team responses to the following questions.

1. Total enrollment (supplied by the teacher).
2. Enrollment per grade level? Number absent?
3. Total number of students surveyed? (Subtract number absent from the enrollment)
4. Number of moves by grades? Total moves this year?
5. Find the percentage that have moved into Brookwood this year. (Divide the amount of moves by the number of students surveyed at each grade level and average them together or divide the total moves by the total surveyed).
6. Find by grade level the number of students that have attended only Brookwood.
7. Find the number of students who had moved sometime during their school years.
8. Find the percentage of students that have moved sometime during their school years by dividing the number of moves by the number surveyed. (47%)
9. To determine the average distance moved each team used a map to measure the mileage. These figures were added together by grade level and divided by the number of moves.
10. To determine the reasons for moving we made the following chart and filled it by using tally marks as each team gave their information.

	3rd	4th	5th	6th
job				
wanted a different house				
taxes				
health				
wanted to				
no reason given				

This activity demonstrated problems encountered by researchers such as

how to ask specific enough questions, how to interpret that answers are given and that not all answers can be used.
11. Children chose certain facts from our findings and put them into various graph forms.

BROOKWOOD MOBILITY SURVEY

Researcher______________________

Grade__________________, Teacher_____________________________

My name is___________________________ and I'm from Mrs. Teel's room. We have been studying about population and how it moves. We want to ask you some questions so we can study the mobility of our school's students.

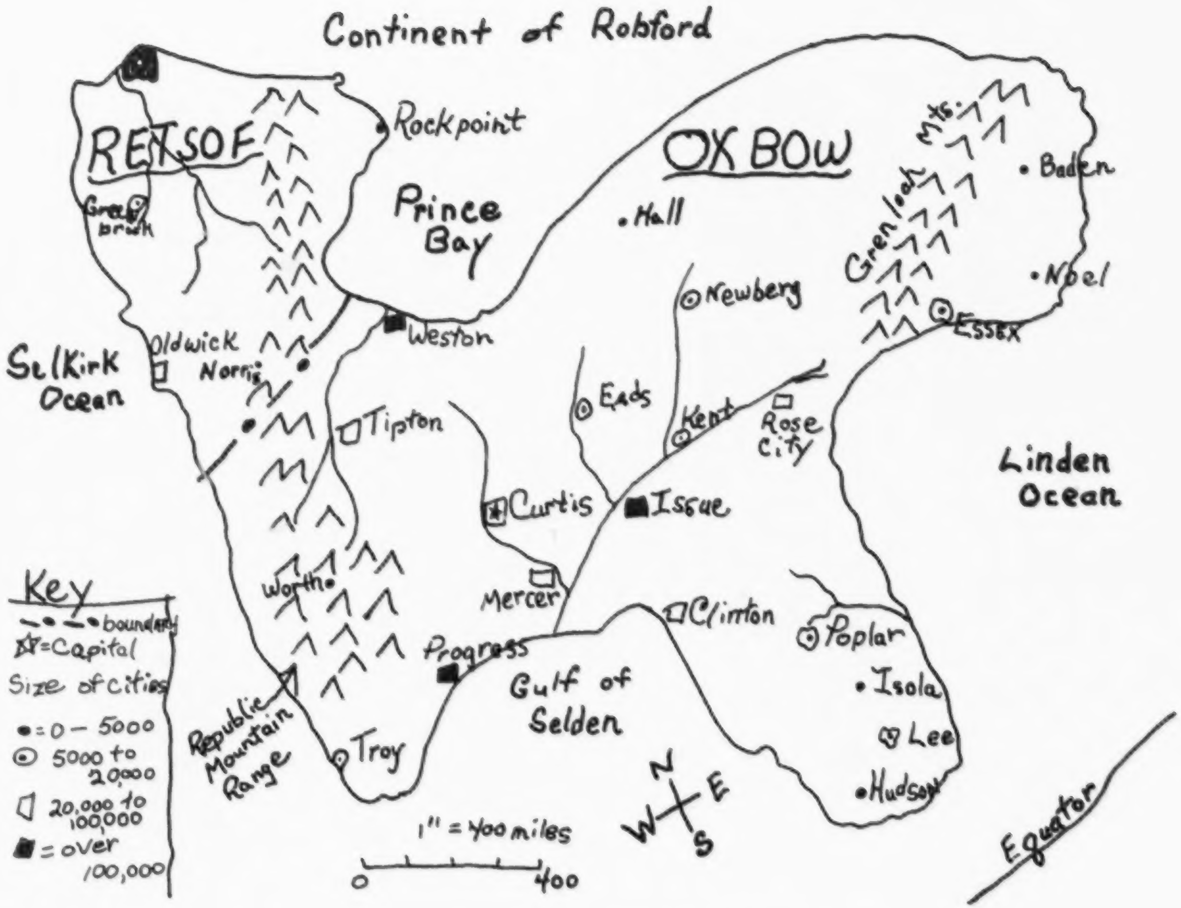
1. How many students are in this room?____________
2. How many students are absent today?____________
3. Please raise your hand if you were new to Brookwood in the 6th grade?________5th grade? _______ 4th grade? _______
   3rd grade?________2nd grade? _______ 1st grade? _______
4. (for Kindergarten only) Raise your hand if you started kindergarten at a different school and are finishing kindergarten here at Brookwood._____________
5. Please raise your hand if you have gone to school only at Brookwood. Don't count preschool.__________

For Grades 3, 4, 5 and 6 only.

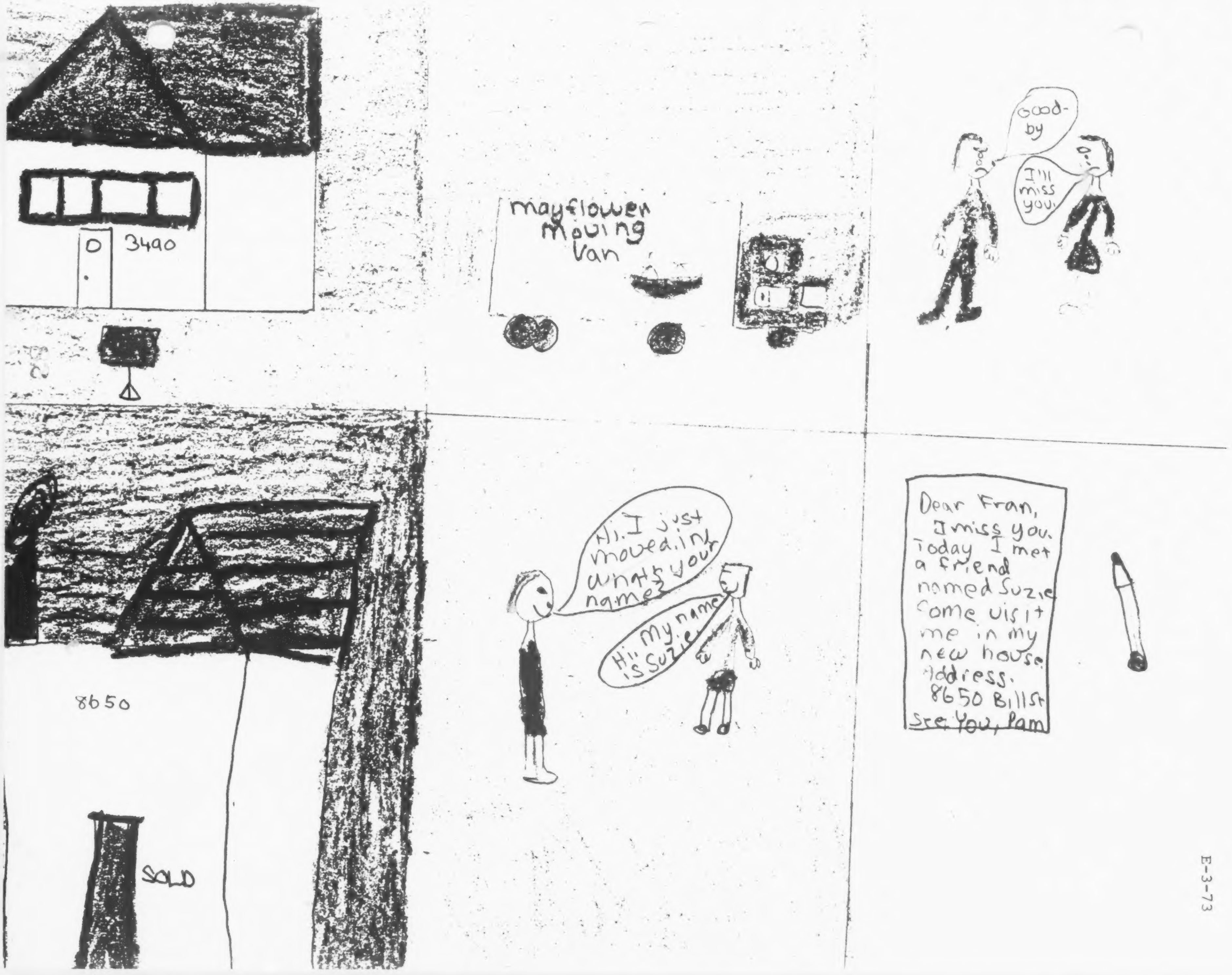
Now I would like to ask the people who have moved at some time since they started to kindergarten to answer 4 questions on the slips of paper I'll hand you. If you have moved please raise your hand and I'll give you a paper with the questions on it. Do not put your name on the paper and answer the questions quickly and hand them back to me.

Brookwood Mobility Survey (Sample slip used in Grades 3-6)

1. My teacher's name is____________________________.
2. On my last move I was in __________grade.
3. We moved from ____.
   town state
4. We moved because____.


Continent of Robford
RETSOF
OXBOW
Rockpoint
Prince Bay
Great brook
Oldwick
Norris
Selkirk Ocean
Weston
Tipton
Worth
Republic Mountain Range
Troy
Progress
Curtis
Mercer
Eads
Hall
Newberg
Kent
Issue
Rose City
Clinton
Gulf of Selden
Greenlook Mts.
Baden
Noel
Essex
Linden Ocean
Poplar
Isola
Lee
Hudson
Equator
N
E
S
W
1" = 400 miles
0
400
Key
boundary
=Capital
Size of cities
= 0 – 5000
5000 to 20,000
20,000 to 100,000
= over 100,000

Continent of Robford


3490
mayflower Moving Van
Good-by
I'll miss you.
8650
SOLD
Hi. I just moved in. What's your name?
Hi. My name is Suzie.

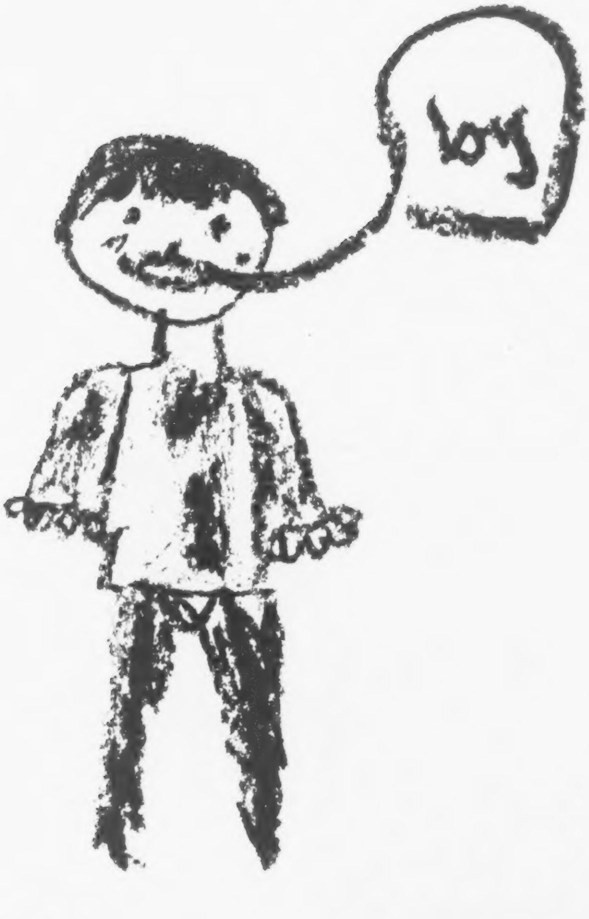
Dear Fran,
I miss you.
Today I met
a friend
named Suzie
Come visit
me in my
new house
Address.
8650 Bill st
See You, Pam

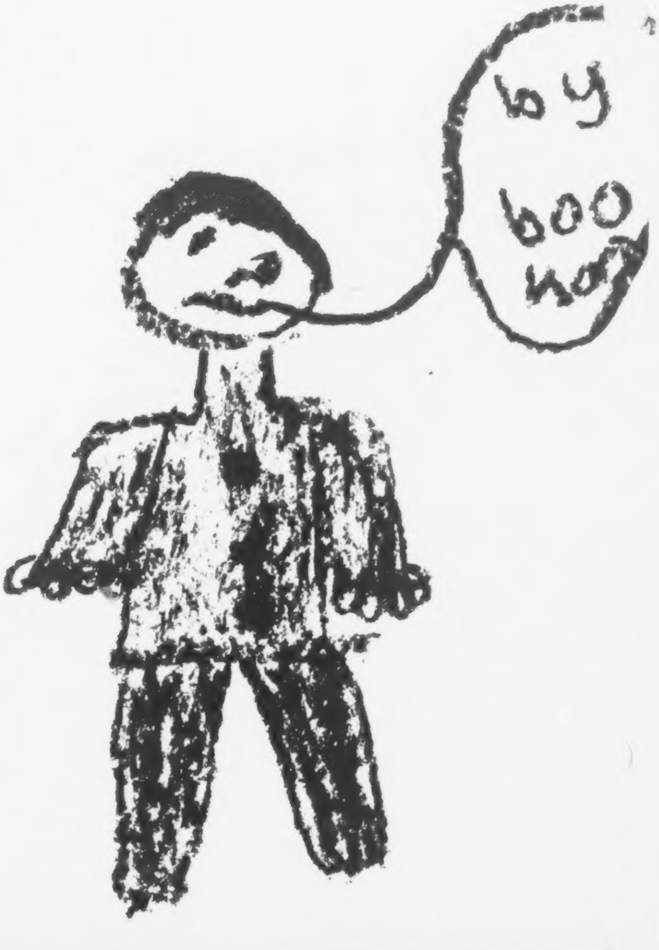
E-3-73

E-3-74

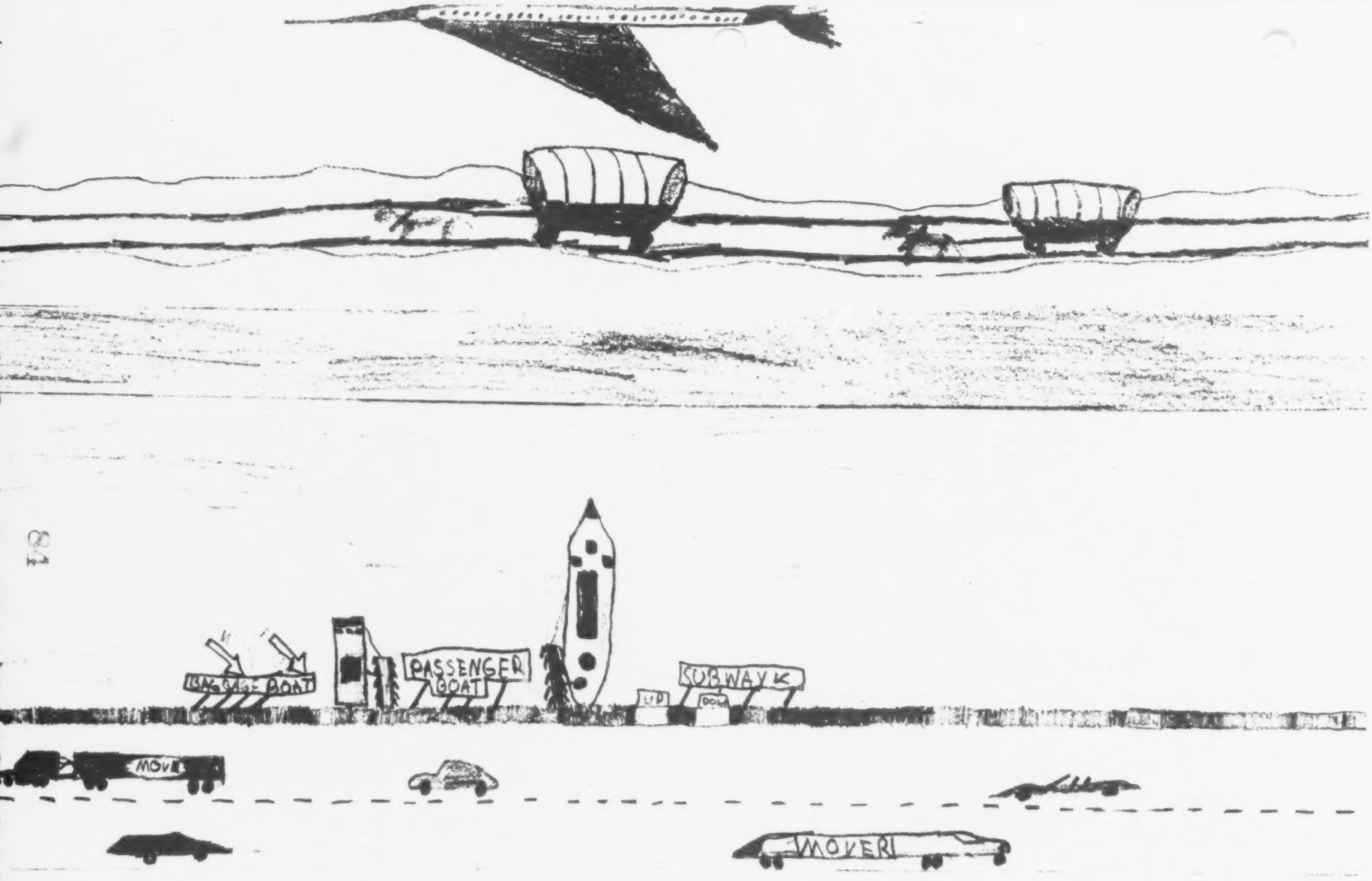
What Moving means To Me

1. It means loosing your friends.
2. Having to change school.
3. Getting sick because you aren't used to th
weather





E-3-75


LUGGAGE BOAT
PASSENGER BOAT
SUBWAY
UP
DOWN
MOVE
MOVER

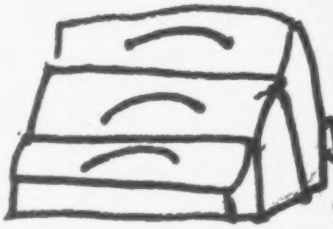
FOWARD, MOVERS!

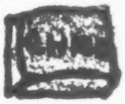
By Terry

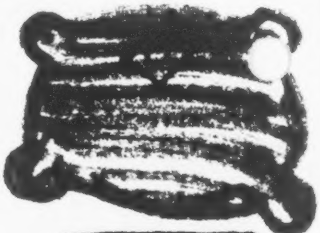
E-3-76

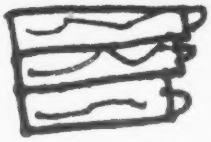
We ARE Moving

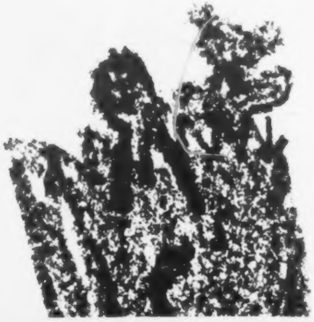
Get Packing
We are moving
Put your toys in burlap sacking
Get your pillow
Get out of that willow
Tell your friends good-bye
Please don't start to cry
Do not forget Myrtle
Your stuffed, overgrown turtle

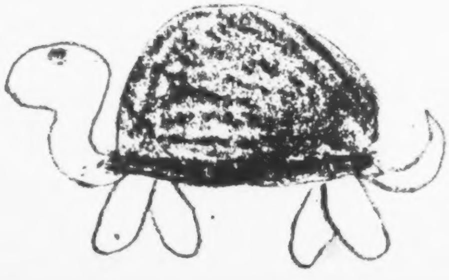












E-3-77

Well Ive moved 4 times, and the older I get the more I don't like to move, because when I was my friends and I didn't mean as much to me. But in northeran california Ive had my best friends and I didn't want to move. Now I am moving back to California

By Steve
Gingrich

E-3-78

Issue: Socialization: Frontiers, Melting Pots, and Other Myths.

Topic: Migration: Mayflowers Old and New.

Title: "Primary Motion: Migrations of Elementary Students."

Descriptor: Population mobility is increasingly commonplace. The why's, what's and how's of mobility are examined through programmed instruction.

Discussion Leader: Bernard Huhn, Shawnee Mission School, Overland Park, Kansas.

* * * * *

"A Strategy for Teaching Population Geography."

INTRODUCTION

With increasing population mobility, some people tend to take this as part of their everyday life, without questioning the why's, what's and how's.

In our suburban area, a unique situation is apparent: that of children remaining in the district only 2 or possibly 3 years. Thus, the teacher is somewhat pressured by the migrations. The students are from a high-middle class neighborhood and have opportunities to travel and explore many avenues of experience.

This teaching unit is designed with emphases on migration and its relationship to these students.

* * * * *

An Introduction to Population Studies

PLEASE READ THESE INSTRUCTIONS BEFORE PROCEEDING FURTHER

On the following pages is a series of questions which will help you understand population migrations better. We call this type of lesson, programmed instruction. It is designed to help you think along with me, in examining information about population. Accompanying each are sentences or brief paragraphs called "frames". In each frame there is a blank space for you to write in a response that will complete the meaning of the sentence. Most of the responses are very simple--a word or two. Please don't feel insulted because these responses may seem so easy, just continue reading and writing the response you think is appropriate.

Suggested responses appear below the question. Place a sheet of paper over the page and expose the page only as you read down. After you have written your responses, move the cover to expose the next question, check to see if your response agrees with the suggested response. If it does, go on to the next question; if it does not, try to analyze why yours is different. Then go back and see if you can put in the suggested response and, at the same time, understand why it was suggested.

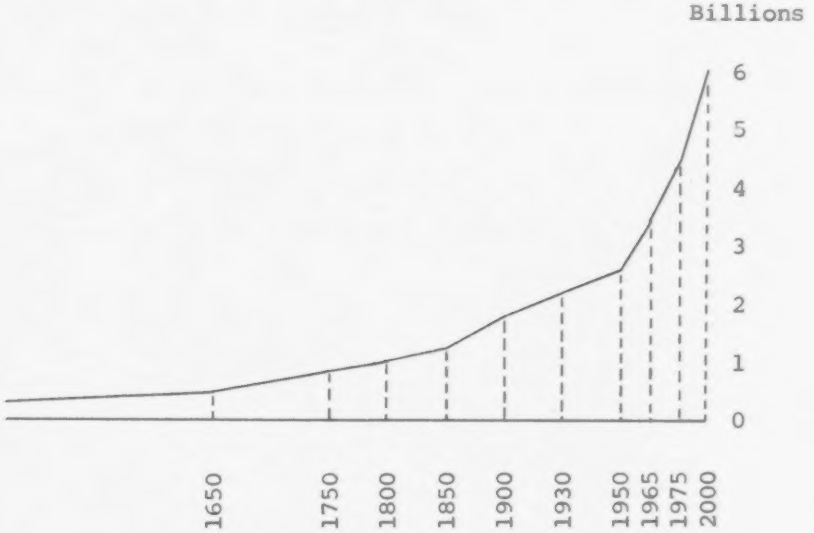
Please proceed to the next page. Remember this is not a test, but a sort of do-it-yourself learning experience.

POPULATION STUDIES

The earth's population has been increasing at a great rate. The number of people who live in a place is called the ______________________ of the place.

Population

Below is a diagram to illustrate the population growth of the world.



People who study human populations are called demographers and the study of population is demography. The demographer wishes to know the actual size of population, its rate of increase or decline, and if there is a change, is it caused by numbers of births, deaths, or migrants or some combination of these. The man who studies population is a _______ ____________ and the study of population is called____________________.

---

demographer demography

Birth, death, and migration are called the three basic demographic processes. Let us look separately at these three demographic processes ______________, ____________ and _____________.

---

birth death migration

Birth rates are measured in many different ways. The one used most is the crude birth rate. It measures the annual number of births per 1,000 of the total population. This ______________________ measure can cause some problems because it does not show the ratio of men to women, children to adults or married to unmarried people. In Alaska there are fewer women than men, therefore the crude birth rate is very low. In an area where women are more in proportion to men, the crude birth rate might be more.

---

crude birth rate

Family size also is very important in birth rates, the size of a family often depends on the economics, and the desire for a large or small family. The number of people in a family is the ______________.

Number of Children per Family
by percent
Great Britain 1860 and 1925

Number of children	1860 marriages by %	1925 marriages by %
0	9	17
1	5	25
2	6	25
3	8	14
4	9	8
5	10	4.0
6	10	2.5
7	10	1.5
8	9	1.7
9	8	.6
10	6	.4
more than 10	10	.3
	100	101.0

Death rates or mortality rates are needed in working with population studies. We shall study three kinds:

1. Specific age death rates; the number of deaths per 1,000 persons in each specific age group.
2. Infant death rates; mortality measure in the first year of life.
3. Crude death rates; the annual number of deaths in a population per 1,000 of the total population.

The three kinds of mortality rates are:

1. ______________________________
2. ______________________________
3. ______________________________

age specific   infant   crude death rate

Crude and Infant Death Rates

Country	Crude death rate		Infant death rate	
	1930	1965	1930	1965
Argentina	11.4[1]	8.3[2]	96.6[3]	60.0[2]
Australia	8.6	8.8	47.2	20.5
Canada	10.7	7.5	89.3	24.7
Chile	24.7	11.2	234.4	114.2
Guatamala	24.7	16.8	83.9	94.6
Mexico	26.6	9.5	131.6	64.5
United States	11.3	9.4	64.6	24.7

[1] 1938
[2] 1964
[3] 1934

Another table the demographer uses is the life table for it shows how long a single generation may live. The life expectancy is constantly changing and a person born in 1930 does not have the same life expectancy of a person born in 1960. The number of years a person might live is called ________________________.

life expectancy

Life Expectation at Birth, age 20 and age 60 in selected countries at specific periods, males and females.

Country	Period	0		20 years		60 years	
		M	F	M	F	M	F
Australia	1953-55	67.1	72.7	54.7	60.0	15.4	18.8
Canada	1960-62	68.3	74.1	51.5	56.6	16.7	19.9
England & Wales	1881-90	43.7	47.2	40.3	42.4	12.9	14.1
	1961-63	68.0	73.9	50.4	58.8	18.5	23.1

	1929-31	57.7	61.0	46.9	58.8	14.6	15.9
United States	1949-51	65.5	70.1	48.9	58.5	15.7	18.5
	1953	66.6	73.4	49.5	55.6	15.7	19.6

Notice the ranges in life expectancies, at each period. It is far greater at birth than at age twenty or age sixty. At age sixty the range is not wide at all.

What are some of the causes of death? In the United States in 1900 the ten leading causes of death were: tuberculosis, pneumonia, diarrhea and enteritis, disease of the heart, nephritis, accidents and violence, cerebral hemorrhage, cancer, bronchitis and diphtheria.

In 1964 the leading causes of death in the United States were: diseases of the heart, cancer, cerebral hemorrhage, pneumonia, accidents (both motor vehicle and others), diabetes, diseases of infancy, birth injuries, congenital malformations and cirrhosis of the liver.

The third demographic process is migration. Migration means the movement of people from one place to another. There are many things that influence the ________________ of people. Let us discuss some of the reasons why people move.

---

migration

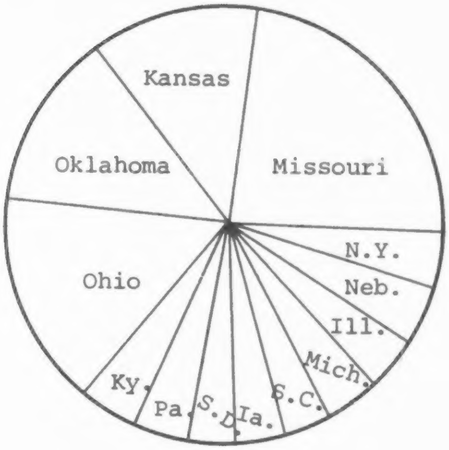
Migration Patterns of your class

No.	Birth Place	Kindergarten	3rd Grade	6th Grade
1.	New York, New York	New York	Pennsylvania	Pennsylvania
2.	Kansas City, Kansas	Kansas	Kansas	Kansas
3.	Sedalia, Missouri	Easton, Missouri	Peculiar, Missouri	Kansas
4.	Omaha, Nebraska	Overland Park, Kansas	Kansas	Kansas
5.	Kansas City, Missouri	Overland Park, Kansas	Kansas	Kansas
6.	Meadville, Pennsylvania	St. Albens, West Va.	Pittsburgh, Pennsylvania	Overland Park, Kansas
7.	Topeka, Kansas	Emporia, Kansas	Emporia, Kansas	Overland Park, Kansas
8.	Kansas City, Missouri	Overland Park, Kansas	Kansas	Kansas
9.	Houston, Texas	W. Des Moines, Iowa	Iowa	Overland Park, Kansas
10.	Guymon, Oklahoma	Overland Park, Kansas	Kansas	Kansas
11.	Roeland Park, Kansas	Overland Park, Kansas	Kansas	Kansas
12.	Kansas City, Missouri	Missouri	Overland Park, Kansas	Kansas
13.	Cleveland, Ohio	Kansas City, Missouri	Overland Park, Kansas	Kansas
14.	Toledo, Ohio	NAS LeMoore, Calif.	California	Ware, Massachusetts
15.	Union, South Carolina	South Carolina	Toledo, Ohio	Ohio
16.	Waco, Texas	Overland Park, Kansas	Lawton, Oklahoma	Overland Park, Kansas
17.	Vernon, Michigan	Michigan	Overland Park, Kansas	Kansas
18.	Oak Park, Illinois	Davenport, Iowa	Des Plaines, Illinois	Overland Park, Kansas
19.	Kansas City, Missouri	Overland Park, Kansas	Kansas	Kansas
20.	Kansas City, Missouri	Overland Park, Kansas	Kansas	Kansas
21.	Oklahoma City, Oklahoma	Oklahoma	Oklahoma	Overland Park, Kansas
22.	Louisville, Kentucky	Kentucky	Kentucky	Overland Park, Kansas
23.	Des Moines, Iowa	Mission, Kansas	Kansas	Overland Park, Kansas
24.	Bartlesville, Oklahoma	Oklahoma	Oklahoma	Oklahoma
25.	Brookings, South Dakota	Aberdeen, South Dakota	Bloomington, Minnesota	Cedar Rapids, Iowa

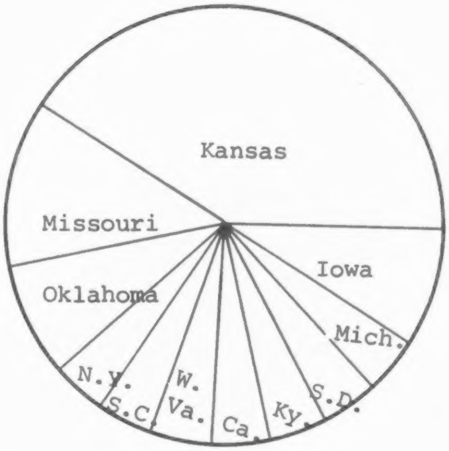
*Location at the beginning of each school year. These statistics were collected at the end of the school year.

E-3- 84

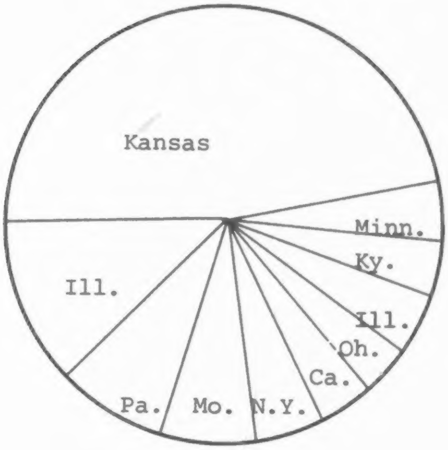
States of Birth



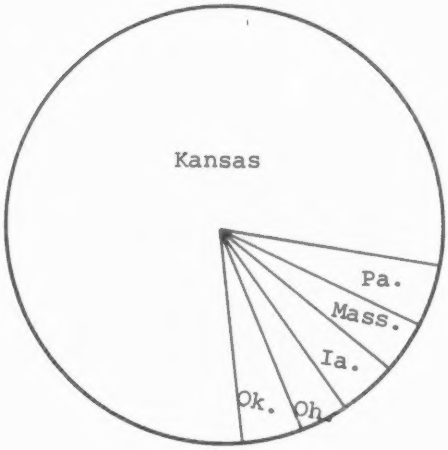
Student Location by State
Kindergarten



Student Location by State
3rd Grade



Student Location by State
6th Grade



Issue:	Socialization: Frontiers, Melting Pots, and Other Myths.
Topic:	Migration: Mayflowers Old and New.
Title:	"Amish Migration As A Problem Solving Mechanism."
Descriptor:	The Old Order Amish are a unique rural American subcultural group. Many of their beliefs bring them into conflict with local political authorities, but they also have numerous internal conflicts. Traditionally, migration has been a manner of resolving such conflicts. But Amish migration is always very selective and to understand this requires some understanding of their beliefs, spatial patterns of distribution, and insight into the relationship between the numerous Amish settlements. These understandings are achieved through a step-by-step examination of some national data concerning the Amish, then through an in-depth analysis of a single Amish settlement.
Discussion Leader:	James E. Landing, University of Illinois at Chicago Circle.

* * * * *

"Amish Migration As a Problem Solving Mechanism."

Utilization of the Visuals

The seven selected photographs serve as an introduction to a minority group which, in many ways, remains unassimilated into the mainstream of American life. Basic cognitive skills concerning the Amish are derived through the photographs indicating the nature of their differentness.

Table 1 provides raw data on Amish population change which leads to the student preparation of Figure 1 and Figure 2. Analysis of Figure 2 clearly shows that the Amish migrate internally in the United States and Canada and immediately raises the basic question as to why this is. Discussion moves along a basic national scale until students have enough information to begin the analysis of a single Amish settlement.

Figures 3 and 4, and Table 2, are related to the Old Order Amish settlement near Nappanee, Indiana. Basic to the understanding of Amish conflict resolution is the nature of the structure of the settlement, generally divided into numerous church districts which are all autonomous. Not only do settlements differ in life style, but life styles differ from church district to church district. An understanding of this basic regional differentiation of Old Order Amish life style leads to insights into the nature of their social interaction and begins to answer the question of why do they migrate. This is followed with an analysis of why they migrate in the spatial manner indicated in Figure 2.

E-3-86

SEQUENCE OF VISUALS, AND CAPTIONS

Plate 1. Two young Old Order Amish girls bicycling along a rural road in Elkhart County, Indiana. Note the long, plain dresses and the white prayer covering on their heads. The prayer covering is required to be worn by all Amish girls and women. (Source: all photographs by the author)

Plate 2. An Old Order Amish farmer watching a horse auction at Belleville, Pennsylvania. Notice his wide-brimmed black felt hat and the single suspender over the left shoulder. He belongs to a group of Amish people who do not believe in wearing suspenders over both shoulders.

Plate 3. An Old Order Amish lady selling produce off the back of a buggy in Aylmer, Ontario, Canada. Note the long black dress and the black bonnet. The bonnet is required to be worn by all baptized women whenever they are outdoors. The triangle on the back of the buggy is a safety reflector which helps automobile drivers see the black buggies better at night.

Plate 4. Four different types of Old Order Amish buggies at an auction in Belleville, Pennsylvania. They differ in construction, size, and color. The buggy on the left is covered with yellow oilcloth, the buggy on the right is covered with white muslin. The buggy second from right is covered with black rubberized fabric. The other buggy has no top and is frequently used by the Amish teen-agers. The different colors represent different groups of Amish people who, because of past difficulties, have separated themselves from one another. Only in this single Amish settlement can all four types of buggies be seen.

Plate 5. An Old Order Amish buggy being driven among the automobiles along the city streets of Goshen, Indiana. On the back of the buggy can be seen a small window, a triangular safety reflector, and an Indiana license plate.

Plate 6. A sign along a rural road in northern Elkhart County, Indiana, warning automobile drivers of the presence of Amish buggies. Such signs reflect the recognition and acceptance of the Amish by the larger society around them.

Plate 7. An Old Order Amish cemetery near Nappanee in Elkhart County, Indiana. Neat, plain, located in the rural areas they love, the cemetery reflects the Amish belief that they are simply pilgrims on the earth passing through on their way to Paradise.

Table 1. Old Order Amish Population, for years 1947 and 1970.

Figure 1. Map showing the states and Canadian provinces (only southern Ontario) which had Old Order Amish settlements in 1970. The recent settlements in British Honduras, Paraguay, and Honduras

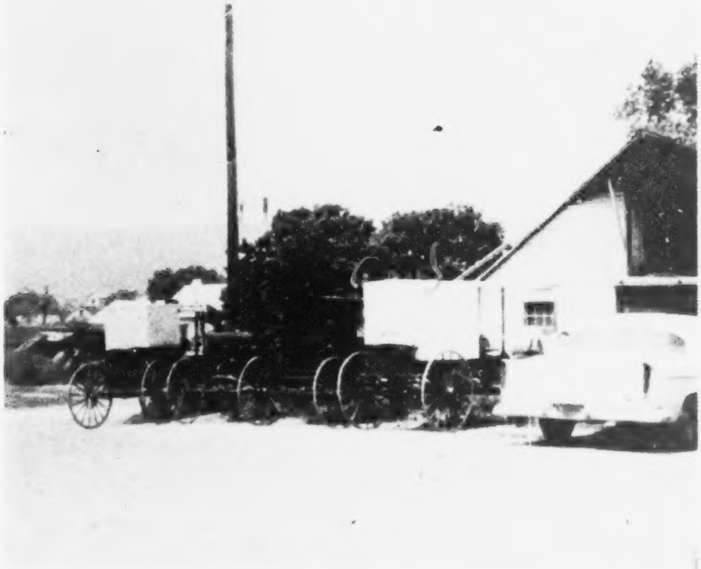
have not been included. (Source: Table 1)

Figure 2. Schematic map showing the nature of Old Order Amish population changes in the United States and Canada, by states and provinces, between the years 1947 and 1970. South Carolina and Georgia have been included since they contain, or contained, schismatic Amish settlements. Amish settlements became extinct in three states (North Dakota, Mississippi, and Oregon). New Amish settlements were founded in New York, Florida, Kentucky, Arkansas, and Tennessee. States with population increases are noticeably clustered around the three states, Ohio, Pennsylvania, and Indiana, which contain the bulk of the Amish population. (Source: Table 1.)

Figure 3. The Old Order Amish settlement in the area of Nappanee, Indiana (TNA), showing the actual settlement boundary and the actual boundaries of the 12 church districts into which the settlement was divided as of December, 1966. The heavy lines represent Indiana county boundary lines. (Source: J. E. Landing)

Figure 4. A diagram showing the actual historical development of the 12 church district boundaries in the Nappanee, Indiana, Old Order Amish settlement as shown on Figure 3. (Source: J. E. Landing)

Table 2. Social Interaction between Nappanee and other Amish Settlements.



E-3-90

BUGGY
TRAFFIC
AHEAD
DRIVE
WITH
CARE
C. W. AISHE

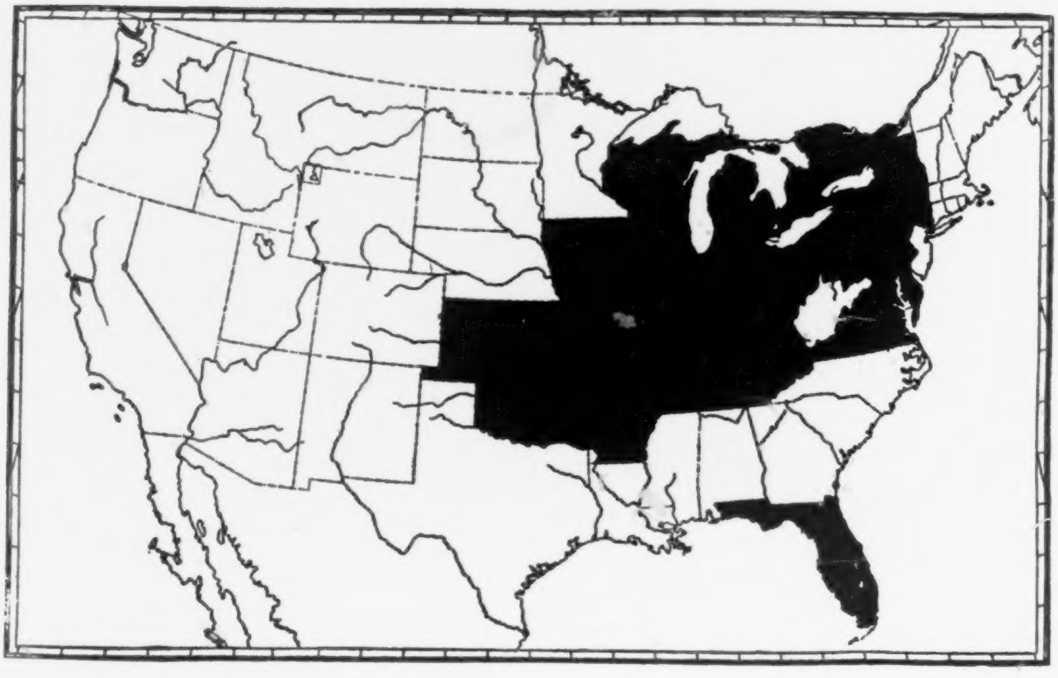
TABLE 1

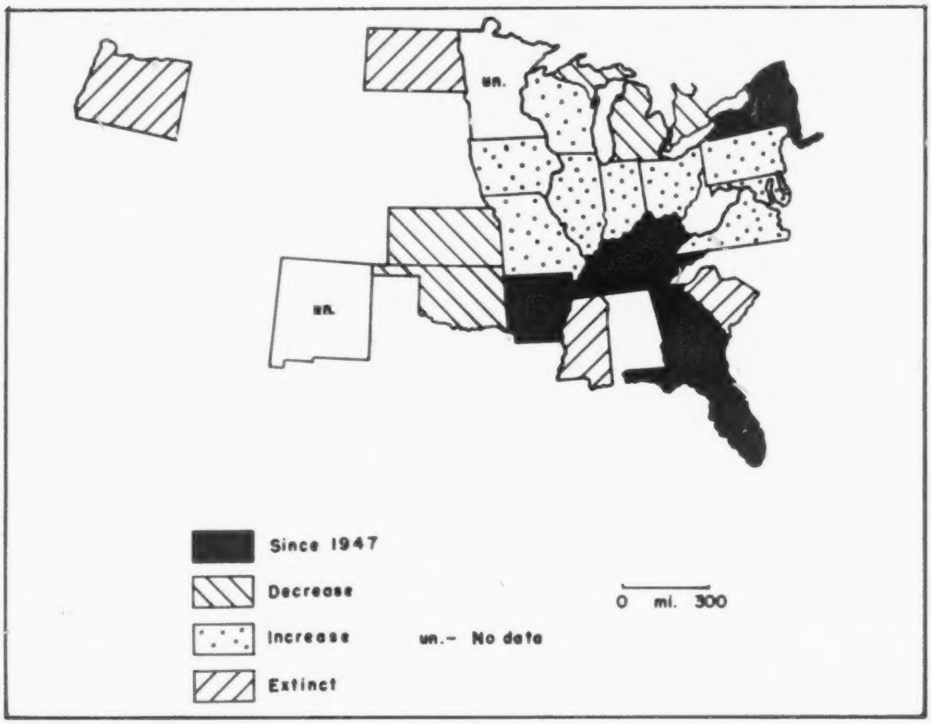
OLD ORDER AMISH POPULATION, FOR YEARS 1947 AND 1970

Region	Number of Amish Settlements, 1970	1947	1970
Ohio	8	16,000	21,000
Pennsylvania	12	11,000	16,000
Indiana	7	10,000	13,000
Iowa	2	2,000	2,300
Illinois	1	1,700	2,200
Missouri	4	UN	1,500
Ontario (Canada)	6	1,600	1,300
Michigan	2	1,200	900
Delaware	1	UN	800
Maryland	2	250	800
New York	1	0	800
Kansas	2	1,100	700
Wisconsin	5	170	700
Virginia	2	120	400
Oklahoma	2	420	300
Tennessee	2	0	250
Florida	1	0	160
Arkansas	2	0	100
Kentucky	1	0	70
Oregon	0	130	0
North Dakota	0	150	0
Mississippi	0	30	0
Total	63	45,670	63,400

UN = unknown

SOURCE: B.J. Raber (Ed.), *Der Neue Amerikanische Calender*, Baltic, Ohio, annual; E.D. Zook (Ed.), *Mennonite Yearbook and Directory*, 1947 through 1964, Mennonite Publishing House, Scottdale, Pennsylvania, annually. In addition, since December, 1966, it is estimated that better than 200 Amish persons have settled in British Honduras, Paraguay, and Honduras. (Numbers have been slightly adjusted for ease of use at elementary level.)




un.
un.
Since 1947
Decrease
Increase
un.- No data
Extinct
0 mi. 300

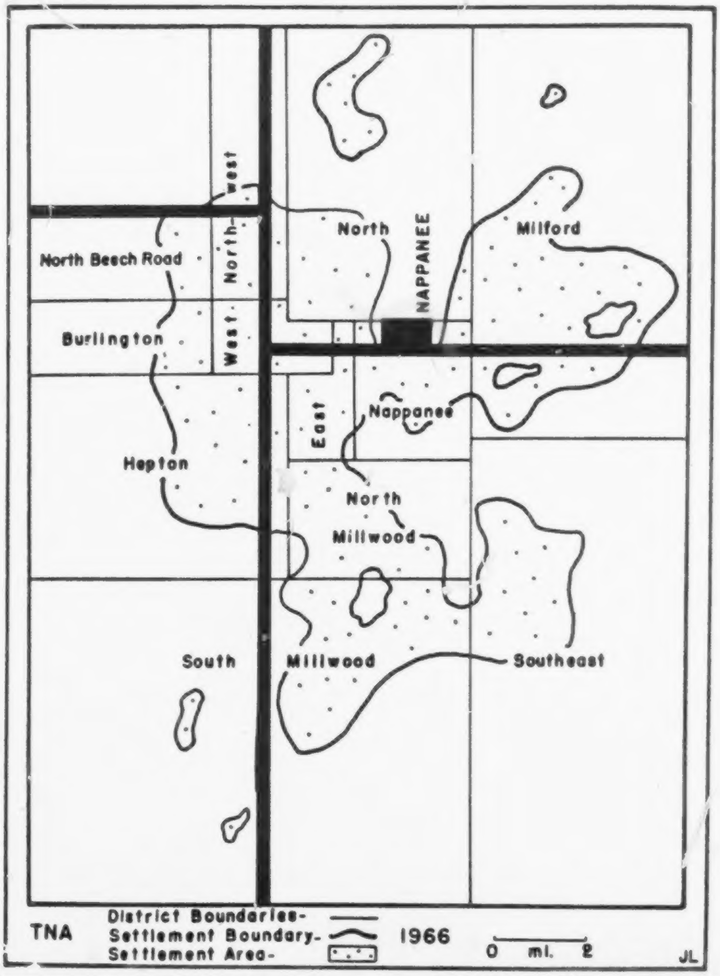
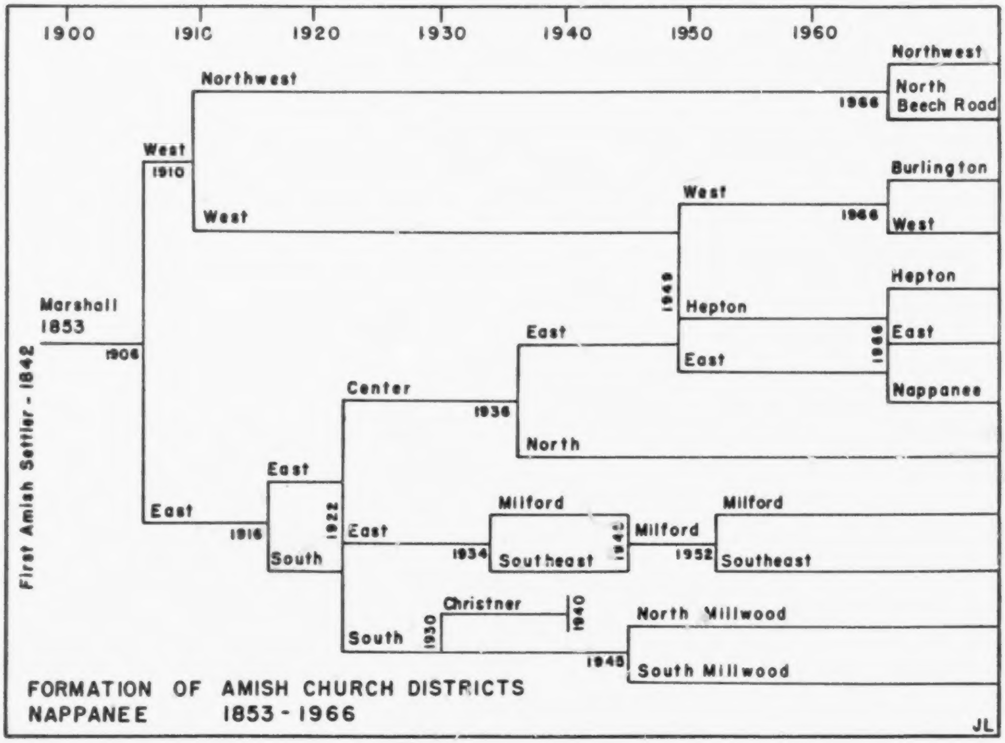

West
North-west
North
NAPPANEE
Milford
North Beech Road
Burlington
West
East
Nappanee
Hepton
North
Millwood
South
Millwood
Southeast
TNA
District Boundaries-
Settlement Boundary-
Settlement Area-
1966
0 mi. 2
JL

TABLE 2

SOCIAL INTERACTION BETWEEN NAPPANEE AND OTHER AMISH SETTLEMENTS

Settlement	Visits to Nappanee	Visits from Nappanee
Elkhart-Lagrange, Indiana	159	34
Holmes County area, Ohio	111	28
Other settlements in Ohio	35	23
Florida	6	18
Other settlements in Indiana	39	18
Iowa	25	15
Michigan	19	14
Wisconsin	6	11
Pennsylvania	14	11
Illinois	22	10
Missouri	9	6
Kansas	8	5
Oklahoma	4	2
Ontario (Canada)	5	2
Delaware	9	2
Maryland	4	1
New York	0	1
Kentucky	0	1
Total Visits	475	202

SOURCE: The Budget, Sugarcreek, Ohio; Nappanee correspondents, issues of June, 1963, through October, 1966, inclusive. This period was before the migration to Latin America. Note the lack of interaction between Nappanee and the Amish in Virginia, Tennessee, and Arkansas.


1900
1910
1920
1930
1940
1950
1960
First Amish Settler - 1842
Marshall
1853
1906
West
1910
Northwest
West
1966
Northwest
North Beech Road
West
1966
Burlington
West
1949
Hepton
East
1966
Hepton
East
Nappanee
East
1936
Center
North
East
1916
East
South
1922
East
1934
Milford
Southeast
1942
Milford
1952
Milford
Southeast
South
1930
Christner
1940
1945
North Millwood
South Millwood
JL

FORMATION OF AMISH CHURCH DISTRICTS
NAPPANEE 1853-1966

E-4-94

Issue: Socialization: Frontiers, Melting Pots and Other Myths.

Topic: Social Conflict and Resolution: The Quest for Identity with Dignity.

Title: "The Navajo and the Problems and Promises of the Reservation."

Descriptor: The uniqueness of the Navajo mind is frequently blurred by simply referring to Navajo nation as American Indians. What is there about the Navajo which causes him to be so firmly attached and committed to his land despite its relatively low productivity? What physical characteristics of the region have molded his way of life and how viable is this life-style in the 1970's? What options exist for the Navajo who intend to remain on the reservation and yet wish to enter more fully into the educational and technological opportunities which are assumed to be part of the American way of life?

Discussion Leader: Gordon Oosterman, National Union of Christian Schools, Grand Rapids, Michigan.

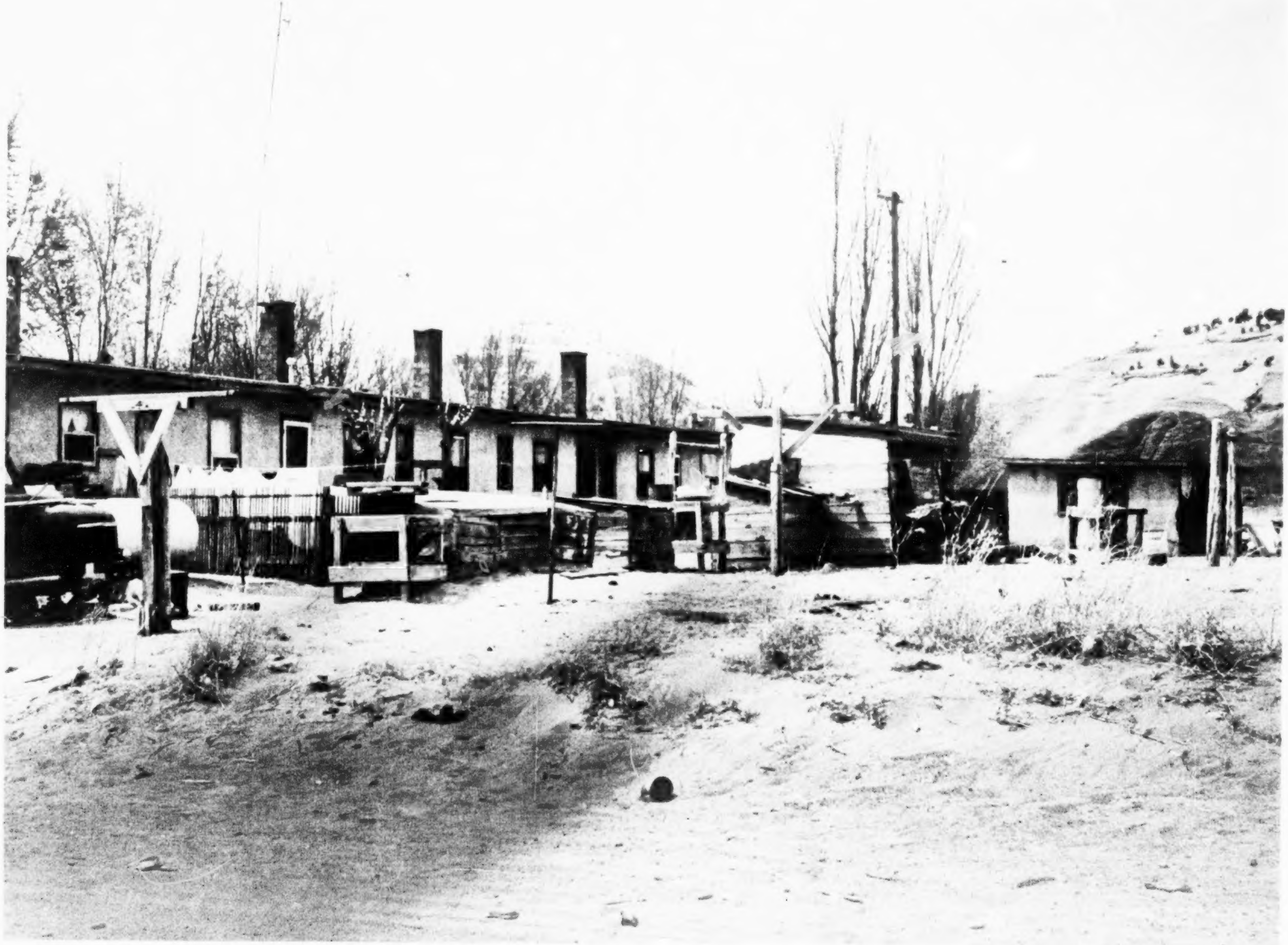
* * * * *

"The Navajo and the Problems and Promises of the Reservation."
Photo Notations

The persistent concern of maximizing use of both physical and cultural resources without depleting or destroying them is the intent of these photographs. Plate 1, a hogan with its windowless door facing east, typifies the dwelling of the Navajo for generations. Plate 2 with television aerials, white sheets, and a utility pole suggests something of the change in which the present Navajo is caught up without wishing to leave his land or necessarily the ways of his ancestors. Plate 3 illustrates well the quasi-nomadic way of life in an arid region, with no use of mechanization or irrigation for intensive agriculture. Plate 4 is an unintentional study in contrasts. Water, the much needed resource, is being obtained from a new deep well. Here it is stored in a corrugated metal tank prior to being transported in a time-honored way. The barbed-wire fence is not in keeping with a general policy of open range grazing, nor is the home in the background congruous with the more ancient landmarks. Plates 5 and 6 appear similar in terrain, vegetation, and land use. One, however, suggests a nuclear family dwelling and the other the dwellings of an extended family. Modified family and social patterns are being considered by some Navajos in distinction for the traditional semi-matriarchal pattern.

E-4-95

E-4-96



E-4-97

E-4-98

E-4-99

E-4-100

E-4-101

Issue: Socialization: Frontiers, Melting Pots, and Other Myths.

Topic: Social Conflict & Resolution: Quest for Identity with Dignity.

Title: "Culture: What is Mine?"

Descriptor: Is it possible to regionalize a classroom into culture groups. Is it meaningful to the students? Does it help children recognize who they are, where they fit into the scheme of things, how they can look at others, and what culture really is? These questions will be focal points of deliberation in this encounter.

Discussion Leader: Joan Dickerson, Marlatt Elementary School, Manhattan, Kansas.

* * * * *

E-4-102

MY CULTURE SHEET

CATEGORIES*	IMAGINARY	TRUE

*To be developed in group discussion by the class

CULTURE: WHAT IS MINE?

Children who are secure, who feel themselves to be important and successful, show a much stronger tendency to ascribe these feelings of personal worth to other people than do those who hold no such secure feeling about themselves.[1]

What is culture: This question is posed to the group. As concepts of the meaning of this term are discussed key words are listed on the overhead projector (or chalkboard). These become the culture categories and under each category several variables are then listed ultimately arriving at only three variables for each category. On a sheet entitled "My Culture Sheet" each member of the group will compile a personal culture using variables from the list developed by the group.

The total group is regionalized in some manner into four sub-groups, e.g. those people wearing mostly red meet in the southwest corner of the room for role number one. Each sub-group then receives a sheet entitled "A Feel For Culture" which gives the role, the culture categories and variables, and instructions on how to proceed. A recorder should be chosen in each group. After the sub-groups have discussed the six questions or the time allotment has been used, the total group meets together for final processing. The recorders are seated in a fish bowl in the center of the large group and discuss how the various roles affected the way the individuals in their group reacted to the questions. From this point, if time permits, the Leader may wish to move to a general processing of culture.

As a final phase the Leader may wish to ask some of the following questions:

1. How do you feel about your own culture now: Is this feeling or understanding, different than it was before this encounter?
2. How do you fit into the world order of culture?
3. How might you be better able to understand people with different cultures than your own, by knowing more about your own culture?

Perhaps someone might respond as this sixth-grader did and make you feel good with "Probably the more I know about my culture, and why it is like it is, the more I would understand different cultures and why they are like they are."

[1] Wanda Robertson, Ed. D., An Evaluation of the Culture Unit Method of Social Education (New York: Bureau of Publications Teachers College, Columbia University, 1950) p. 83

E-4-104

A "FEEL" FOR CULTURES

You are being joined in your discussion of the following problems by a person with a culture far different from your own. The same ten characteristics of their culture have been listed that were used in the formation of your culture.

As you think about these problems and discuss your feelings about them, also discuss them from the point of view of this imaginary person. How would he feel about these issues?

There may be problems that you will encounter or obstacles you might have to overcome in order to be able to understand one another and this new member of your group.

Please jot down any of these that arise during your discourse, and also pertinent comments concerning your feelings as compared with those of this imaginary person. You will come together again for the last few minutes of this session and share your observations.

New Role - #1

Nationality	German
Religion	Lutheran
Art	Traditional
Politics	Nazi
Education	2 years college
Occupation	Officer in army
Ancestry	German
Music	Classical
Organizations (membership)	Masonic
Status in family and family size	Father. . .Family of 6

New Role - #2

Nationality	Peruvian
Religion	Catholic
Art	Native
Politics	Removed from political scene
Education	No formal education
Occupation	Subsistence farmer
Ancestry	Inca
Music	Native
Organizations (membership)	None
Status in family and family size	Father. . .Family of 8

New Role - #3

Nationality	Italian
Religion	Catholic
Art	Modern
Politics	Communist

Education	Eighth Grade
Occupation	Vineyard Laborer
Ancestry	Italian
Music	Folk
Organizations (membership)	Young Communist
Status in family and family size	Son (19 years old) . . . family of 8

New Role - #4

Nationality	Russian
Religion	Atheist
Art	Abstract
Politics	Communist
Education	University Graduate
Occupation	Chemist
Ancestry	Jewish
Music	Modern
Organizations (Membership)	Professional Organ.
Status in family and family size	Mother. . .family of 3

Problems to consider:

1. The government of your country has issued a proclamation that certain kinds of crops must be planted instead of the ones that are now being grown. What is your feeling concerning this order?
2. A Pentecostal missionary is becoming very active in your community. What is your reaction to this?
3. A government subsidized program has been established in your country for the purpose of encouraging people to move to the wide open spaces. The literature glorifies the "wilderness", which is developing in once settled areas, vacated by people who have moved to the city. It makes every attempt to minimize the amenities of urban living. How do you feel about this?
4. How do you feel about your country's new policy on birth control, which has made unqualified abortion legal, in their attempt to control the population of the country?
5. What is your opinion of the newly adopted federal law in your country giving each adult citizen a minimum income?
6. There has been a meeting of the General Assembly of the United Nations, and it has been decided that the United Nations should be disbanded. What kind of effect does this have on you?

* * * * *

CULTURE IS THAT COMPLEX WHOLE WHICH INCLUDES KNOWLEDGE, BELIEF, ART, MORALS, CUSTOM, AND ANY OTHER CAPABILITIES AND HABITS ACQUIRED BY MAN AS A MEMBER OF SOCIETY.

E-4-106

Issue:	Socialization: Frontiers, Melting Pots, and Other Myths.
Topic:	Social Conflict and Resolution.
Title:	"The Trail Boss Game: Simulation of Conflict."
Descriptor:	One of the most colorful characters in the drama played on the American frontier scene was the man of the cattle kingdom, who wore his law "strapped around his waist". The rise of the Industrial Revolution and the waves of settlers, with their windmills and barbed wire, provide an ending of his open range -- one of the greatest social issues in our history. In a simulation of cattle drives, a solution to transporting the over-abundance of cattle to markets, each participant will follow one of six historically authentic trails. Upon arrival at his destination he will consult his log to compute his net profit and analyze the disadvantages of each trail, such as weather, water, river crossings, stampedes and Indians. This simulation game is from the unit entitled "Homesteaders and Cattlemen," by Harold Berlak and T. R. Tomlinson of the Metropolitan St. Louis Social Studies Center, Elementary School Social Science Project.
Discussion Leader:	Leslie Handley, The Optional Elementary School, Kirkwood, Missouri

* * * * *

Copyright cleared

Overview

In the previous lesson, the student learns that Tom Slater and two other cattlemen have decided to attempt a cattle drive, but they have not yet decided on a trail and final destination. The Trail Boss Game gives the student an opportunity to assess which of several trails would probably be the most profitable one for Slater and his partners to take.

The Trail Boss Game provides six possible trails. Historically, these trails are the same ones used by Texas cattlemen at the close of the Civil War. The student learns that each trail has its own disadvantages and that no trail is without problems and risks. Problems, such as weather, water, river crossings, stampedes, and Indians often cause cattle losses and sometimes exact a human toll, as well. In addition, the student is made aware of another risk; i.e., that the expected profit from a drive is subject to fluctuating prices.

The Trail Boss Game is organized so that when students complete the game the trail leading to Abilene will generally emerge as the one that is most profitable with the least risk. The reason for this is that human and cattle losses are minimal. River crossings are relatively safe, there are grasslands along most of the trail, and there is very little danger of harrassment by outlaws. In addition, while cattle prices in Abilene are not the highest of the six market cities, they are sufficiently high to guarantee a good return.

Objectives

1. For the student to know that each trail leading to a potential market has its own disadvantages.
2. For the student to know that because of minimal trail losses and adequate market prices, the trail leading to Abilene, Kansas emerges as the best of the existing trails.

Trail Boss Game:

Game Board - is a map of Western United States. On the map are six different trails. Each has its beginning in Texas. Each trail goes to six different potential markets. They are Shreveport, Fort Sumner, Sacramento, Abilene, St. Louis and Sedalia.

Six Tokens - each token represents the symbol of the ranch's brand.

Brands - ᒧ is the brand for the Lazy J Ranch; Ω is the brand for the Horseshoe Ranch; ΩΩ is the brand for the Double Horseshoe Ranch; Y is the brand for the Cactus Steer Ranch: X̄ is the brand for the Bar X Ranch; ★ is the brand for the Lone Star Ranch.

Set of Cards - These must be placed in numerical order with number one on top of the stack. In addition to the number, the card has the brand of a ranch. This stack of cards should be faced downward so that the players see only the side which has the number and the brand. The other side of the card has directions and should not be seen until the game begins.

One Spinner - The Spinner is numbered one to three and is used only if the card asks the player to spin.

Identification Sheet - informs each player of his Texas name, his ranch, his market destination, the price he hopes to receive for his cattle, and the size of his herd (each herd numbers 1,000 head).

Six Name Tags - Each player wears a tag so that the other players know his Texas name, his ranch, and his market destination.

Log Sheet - A log is a record of the drive. Each player must record the events that happen on the trail and the results of those events. The player must use the log sheet to figure the profit he makes from the sale of his cattle.

Suggested Strategies

1. The game is designed for six players. The teacher may wish to involve each student by having a number of games being played simultaneously. If so, some students may have to play more than one role.

2. Each student should be given the game directions. The teacher may wish to have the directions read aloud. The teacher may wish to discuss the directions with the students to make sure they understand the terms, "trail boss," "part owner," "expected market price," and "trail obstacles."

3. Each group of players should receive a game board, a set of cards, a spinner, identification sheets, log sheets, name tags, and tokens.

4. Each player in a group should receive an identification sheet, a log sheet, the appropriate name tag, and the appropriate token. Each player should read his identification sheet. It tells him who he is, the name of his ranch, his market destination, the number of cattle he is driving, and his market destination. Each player should wear his name tag so that the other players will know who he is and where he plans to drive his herd. The teacher may wish to go over the Log Sheet so that the players will know where to keep their record of events along the trail and the tally of human and cattle losses. Pages 2 and 3 of the Log Sheet contain directions to the student for figuring his profit at the end of the drive. Information about the condition of the herd and market prices are contained on the final cards (destination cards) of the game. (There is no destination card for Sedalia, as the entire herd is lost along the trail).

5. After each player arrives at his destination, he should turn to pages 2 and 3 of the Log Sheet and follow the directions for computing his net profit.

6. After the students have completed their log sheets, the teacher may wish to use the following role play situations to explore which of the six trails emerged as the most profitable and least dangerous.

   a. Two or three trail bosses each representing a different ranch have met as they ride back to their homes in Texas. Each one should be encouraged to express his feelings about the profit he made from his drive. Does he feel the drive was worthwhile? Why?

   b. To emphasize the many obstacles of any trail, the teacher may ask three students to take the roles of a trail boss and two Texas cattlemen who were investors in the drive. One of the Texas cattlemen could begin the conversation by asking, "What happened on the drive?"

   c. To ascertain which trail has the least obstacles, the teacher might ask 6 trail bosses, each representing different ranches, to talk about which trail they each plan to take for next year's drive and why. The scene may be a campfire or a cattlemen's association meeting.

H 5, TG

COPYRIGHT (c) 1970
HAROLD BERLAK & T.R. TOMLINSON

"THIS IS AN EXPERIMENTAL, SAMPLE COPY
AND IS NOT FOR GENERAL USE."

* * * * *

Homesteaders and Cattlemen, Lesson 5, Text: 1

TRAIL BOSS GAME

Directions

You have learned in Lesson 4 that Tom Slater, Joe Lockhart, and Martin Samualson have decided to drive their herds to a cattle market. They are hoping that they will receive a good price for the cattle and that they will not lose any cattle or men along the way. There are a number of trails they could use, each leading to a different market. The Trail Boss Game gives you a chance to find out which trail is the best.

In this game, you will learn of six different trails. Each one leads to a different city where cattle can be sold. The Game Board is a map of the Western United States in 1866 showing six trails leading from Texas to the six market cities of Shreveport, Louisiana; St. Louis, Missouri; Sedalia, Missouri; Abilene, Kansas; Fort Sumner, New Mexico, Sacramento, California. Each player is a Texas cattleman who is driving his beeves along one of these trails.

Six people should group together to play the game. After your group is formed, your teacher will give the group the following materials:

1. Game Board
2. Spinner
3. Set of Cards

In addition, your teacher will give each player the following materials: 1. Name Tag. 2. Token. 3. Identification Sheet. 4. Log Sheet.

Directions for playing the game:

1. Put on your name tag so that the other players know who you are, the name of your ranch, and the market you are headed for.
2. Place your token brand on the game board where your trail begins in Texas.
3. Read your identification sheet. It tells you:
   a. who you are, b. the name of your ranch, c. where you are going,
   d. the number of cattle you are driving, e. the price you expect to receive for your cattle.

4. Fill out the top part of your log sheet.

5. Whenever your card comes up, advance your token one step. Then read your card. It will tell you about something that happened on your cattle drive.

a. Tell the other players what happened.

b. Record briefly on Page 1 of your log sheet what happened and the results. Be sure to write down enough so that later you will be able to describe to someone else what happened

6. You will receive your last card when you reach your destination. It will tell you:

a. how many months you have been on the trail.

b. the condition of your herd.

c. the prices that are being paid for cattle in that city.

On pages 2 and 3 of your log sheet, figure out how much profit you made from this cattle drive.

E-4-111

Issue: Socialization: Frontiers, Melting Pots, and Other Myths.

Topic: Social Conflicts and Resolutions: Identity with Dignity.

Title: "Economic and Social Diversity Within the Urban Setting: Focus on the American City."

Descriptor: Knowledge and cognitive processes together provide the focus of this session. The content includes the economic and social structure and the problems of American cities as exemplified by Gary, Indiana; the processes stressed are the thinking processes of classifying, interpreting, evaluating, and decision-making. Maps constructed from the census data serve as the source for raising questions and developing hypotheses concerning correlations, causes, and consequences of the city's structure and problems. Role-playing and sociometric mapping techniques are employed as means for considering criteria used to evaluate people. The session uses the actual techniques which teachers can use in their classroom presentations.

Discussion Leader: Diana E. Blackwell, Social Science, University of Georgia, Athens, Georgia.

* * * * *

"Economic and Social Diversity Within the Urban Setting: Focus on the American City."

Mapping Objectives

1. Student uses appropriate symbols to depict phenomena.
   a. Uses dots, lines, and colors to depict specific cultural phenomena.
   b. Recognizes how symbols can show different quantitative distributions.

2. Student seeks co-relations and makes inferences through the comparison of data.

Mapping Procedures

1. Collect data (data for study attached)

2. Group data
   a. Determine the range of data - highest and lowest - by inspection.
   b. For each data category round down the lowest entry to the smallest whole number and round up the highest entry to the largest whole number, e.g. 10035 to 10000; 21700 to 22000; 8.3 to 8.0; 12.7 to 13.0.

c. Survey data and range and decide upon the number of groupings.
   1) Avoid too many or too few groups, 3-7 groups are most frequent
   2) Be sure groupings are of equal size.

      Interval of 1 = 0, 1, 2, ... N or 8.0-8.9, 9.0-9.9, 10.0-10.9 ... N
      Interval of 5 = 20-24, 25-29, 31-34, ... N
      Interval of 2000 = 10,000-19,999; 20,000-21,999; 22,000-23,999, ... N
   3) The number of entries within each group vary, some groups may be empty.

3. Select representation for groupings

   a. Color - discrete: red, blue, yellow, etc..
   b. Color - continuous: lowest pale blue to highest, dark blue.
   c. Symbol - discrete: A,B,C,...Z; *,#,x, etc.
   . . .   .   ::::::   ::::::
   d. Symbol - continuous: . . .   .   ::::::,   ::::::, etc.

4. Map data

5. Seek correlations and interpretations of possible causes and consequences of data. This is the goal of mapping.

OBJECTIVES

Level I: Social studies education provides students with opportunities to develop their reasoning abilities in connection with social phenomena.

Level II: (Behavioral Objective):

1. To develop map-making skills.
2. To develop map interpretation skills, hypothesizing about correlations and possible causes and consequences.
3. To develop awareness of human evaluation criteria.
4. To provide opportunities to make decisions regarding human evaluation.
5. To provide opportunities for student interaction among peers.

PROCEDURES

Mapping and Interpretation: Using the census tract map and a U.S. map, discuss and list possible occupations and problems of Gary, Indiana. Group students into small groups (2-4), have each group plot the data for one or two of the columns #1 through #6. Have groups develop questions and/or hypotheses concerning correlations, causes, and/or consequences of occupations, social situations, problems, and the completeness of the data. This lesson might then proceed into individualized research of topics such as the steel industry, recreational facilities, etc., or into a similar study of the students' hometown, or into the role-playing lesson.

Role-playing: Have the students plot the racial column, #7. Discuss possible causes and consequences, including attitudes, of the racial distribution. Discuss possible criteria for people evaluation, such as, achievement: economic, social, political, educational status, interests, skills, talents, and ascriptive: race, sex, age. Distribute the ditto, "Who Lives Where?" and ask for volunteers to role-play. Allow for free discussion and interaction. Do not seek consensus. The goal of role-playing is the expression of various attitudes and consideration of possible consequences of the varying attitudes.

Socio-metric mapping: Prior to role-playing allow free choice in seating or grouping. Map the classroom distribution of students. After role-playing share the map with the students and discuss possible consequences of sexual, racial, intellectual, and home-locational discrimination, or lack thereof, with students.

EVALUATION

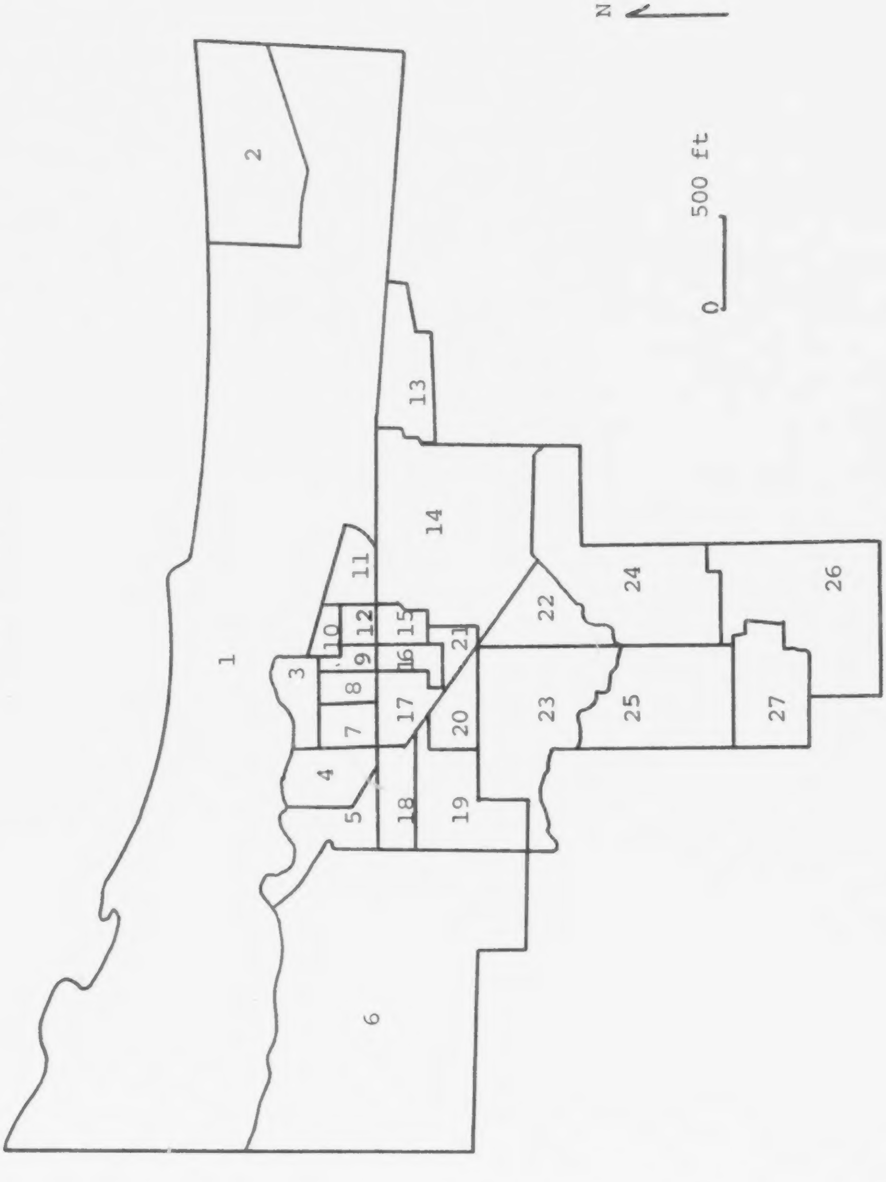
Mapping: Have students compare their initial maps seeking and listing their map's strengths and weaknesses in regard to plotting and symbolizations and the ease and accuracy of interpretations. Compare student evaluation with teacher's.

Reasoning: Before mapping, and after each mapping and group work have students record their perception of the central problems, possible causes and consequences of those problems, and the limitations of the data. Compare and discuss the changes and growth of understanding.

Human evaluation: Prior to role-playing ask the students to list criteria for evaluation of human beings. Do the same after the role-playing and discussion experience. Discuss the changes in knowledge.

E-4-114

CENSUS TRACTS -- GARY CITY


N
0
500 ft
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

Economic and Social Data: Gary, Indiana

Tract Number	#1 Median Income	#2 % Unemployed	Houses: Majority Built pre-1939	#3 Valuation of Houses: owner occupied	#4 Houses: % deterior-ating, delapidated	#5 Schooling: Median Years	#6 Population Change 1950-1960	Occupation: 1st, 2nd, 3rd ranking, Males	#7 Racial: Ratio Black/White	Tract Number
1.	$5998	3.08	yes	$13900	9.82%	12.0	+23%	Craftsmen 448 Operatives 334 Lab.123/Prof.122	1/99	1.
2.	$9350	1.2%	no	$21700	3.44%	12.6	+28%	Managers 367 Profess. 331 Craftsmen 272	1/99	2.
3.	$5312	4.1%	yes	$11500	11.62%	8.9	+ 3%	Craftsmem 329 Operatives 320 Laborers 280	1/99	3.
4.	$7923	1.6%	yes	$17800	.68%	12.4	- 3%	Craftsmen 352 Profess. 264 Managers 254	1/99	4.
5.	$6950	1.2%	yes	$13900	39.94%	11.9	n.a.	Craftsmen 274 Operatives 188 Profess. 90	1/99	5.
6.	$5291	2.8%	no	$12400	8.24%	10.3	+96%	Craftsmen 1450 Operatives 1305 Laborers 618	25/75	6.
7.	$6244	1.5%	yes	$15500	7.24%	12.2	n.a.	Craftsmen 283 Operatives 189 Profess. 187	1/99	7.
8.	$5685	2.5%	yes	$13600	13.27%	11.0	- 4%	Operatives 294 Craftsmen 287 Laborers 147	1/99	8.
9.	$4186	5.7%	yes	$12800	12.67%	8.8	n.a.	Laborers 274 Operatives 266 Craftsmen 255	1/99	9.
10.	$4279	3.3%	yes	$12600	4.55%	10.4	- 8%	Craftsmen 344 Operatives 322 Laborers 184	1/99	10.
11.	$6266	1.2%	yes	$12400	6.09%	10.8	- 1%	Craftsmen 456 Operatives 403 Laborers 179	1/99	11.
12.	5157	4.3%	no	$12100	20.42%	9.4	- 7%	Craftsmen 247 Operatives 244 Laborers 148	1/99	12.
13.	$7160	1.0%	no	$13300	2.23%	12.1	n.a.	Craftsmen 460 Operatives 368 Man.121/Prof.119	1/99	13.

Table 1

E-4-116

Tract Number	#1 Median Income	#2 % Unemployed	Houses: Majority Built pre-1939	#3 Valuation Houses: Owner Occupied	#4 Houses: % Deteriorating, Delapidated	#5 Schooling: Median Years	#6 Population Change 1950-1960	Occupations: 1st, 2nd, 3rd ranking, Males	#7 Racial Ratio Black/White	Tract Number
14.	$4624	4.1%	no	$11800	19.28%	9.2	n.a.	Operatives 1155 Laborers 1151 Craftsmen 688	96/4	14.
15.	$5524	...%	yes	$13800	.59%	8.9	-11%	Craftsmen 98 Operatives 67 Sales 34	4/96	15.
16.	$3333	5.4%	yes	$14200	59.42%	8.0	- 7%	Laborers 520 Operatives 391 Craftsmen 185	24/76	16.
17.	$5327	2.6%	yes	$12300	17.99%	8.5	- 5%	Operatives 304 Craftsmen 289 Laborers 211	32/67	17.
18.	$5726	4.2%	yes	$11100	23.26%	9.1	n.a.	Craftsmen 276 Operatives 222 Laborers 174	21/78	18.
19.	$5263	4.2%	no	$12500	19.16%	9.9	+38%	Craftsmen 523 Operatives 502 Laborers 330	76/24	19.
20.	$4444	5.8%	no	$14200	26.66%	8.9	+65%	Operatives 351 Laborers 214 Craftsmen 141	97/3	20.
21.	$4044	7.6%	yes	$12900	19.33%	8.5	- 3%	Laborers 359 Operatives 346 Craftsmen 196	96/4	21.
22.	$4021	6.5%	yes	$10000	42.52%	8.6	+ 9%	Laborers 449 Operatives 385 Craftsmen 277	99/1	22.
23.	$4093	7.0%	yes	$11300	29.29%	9.3	+25%	Laborers 980 Operatives 961 Craftsmen 751	99/1	23.
24.	$6008	2.6%	no	$12300	5.68%	9.3	n.a.	Craftsmen 665 Operatives 433 Laborers 155	../99	24.
25.	$6865	.1%	no	$14100	7.17%	11.1	+21%	Craftsmen 685 Operatives 547 Man.261/Prof.252	../99	25.
26.	$6918	1.7%	no	$14000	12.53%	10.8	n.a.	Craftsmen 1049 Operatives 747 Prof.271/Lab.268	../99	26.
27.	$6968	2.0%	yes	14100	5.46%	12.0	+15%	Craftsmen 612 Operatives 434 Profess. 219	../99	27.

Calculated from: U.S. Department of Commerce, Bureau of the Census, Censuses of Population and Housing: 1960 (Washington: U.S. Government Printing Office).

Table 2

Who Lives Where?

Role-play what you think the family members, as described below, might say during the family dinner in connection with the given situation. Consider attitudes, desires, goals, and problems each member might express, how they might see and evaluate the situation and the other family members.

Family: Akins (Negroid)
The Akins family arrived in Gary two days ago. Mr. Akins has accepted the position of city engineer. They have been living in Hartford, Connecticut. The family is seeking a place to live. Where might they want to live? What problems might they have to plan to face? How might they prepare to face those problems?
Father: Bruce. College education. Interests include modern music and art, especially his collection of African crafts.
Mother: Penny. College education - teacher. Interests include music, especially tribal songs from Africa, and sewing.
Son: Jimmy. Interests include basketball, rockets, and math. Age 15.
Daughter: Wanda. Interests include art and dance. Age 16.

Family: Bricks (Caucasoid)
The Bricks family lives in tract 2. Mr. Bricks is one of the vice-presidents of U. S. Steel. The family moved from Alabama, where they had lived all their lives, last year. There is an empty house next to them which has just become available for sale, but is not yet on the open market. The house is an excellent buy. How might these family members react to informing the Akins about the empty house?
Father: John. College education. Interests include golf, yachting, and modern art. Activities include an appointed position on the city council of Gary.
Mother: Priscilla. (nee Davis - descendent of Jefferson Davis) Interests include golf, geneology, and the United Daughters of the Confederacy.
Sons: Bill and Barry, twin boys aged 15. Interests include basketball, hot-rods, and science.

Family: Cassidy (Caucasoid)
The Cassidy family lives on the other side of the empty house in tract 2. Tom Cassidy is the head of the Welfare Department of Gary. The family moved from New York City eight years ago. Tom met Bruce at lunch today. How might these family members react to informing the Akins about the house?
Father: Thomas. College education. Interests include colonial artifacts, woodworking and archery.
Mother: Suzanne. Interior decorator. Interests include art history, conservation and conservation education.
Son: Brad. Interests include art, history, and the out-of-doors, especially wild life photography and hiking. Age 17.
Daughter: Yevonne. Interests include art, science, and rock music. Age 14.

E-4-118

Issue: Socialization: Frontiers, Melting-Pots, and Other Myths.

Topic: Social Conflict and Resolution: The Quest for Identity with Dignity.

Title: "Citizens of a Child's World: Reality versus Perception."

Descriptor: Many suburban children along with children who live on the fringes of urban centers hold conceptions of central-urban dwellers based upon fallacious and stereotypical thought. How do children perceive the life space of the city dweller? What influences upon people do they attribute to living in a city: Do children see certain "types" of people as typical dwellers of urban centers? Answers to these and other questions are pursued through analyses of children's drawings, responses to questionnaires, and responses to photographs of inner-city people.

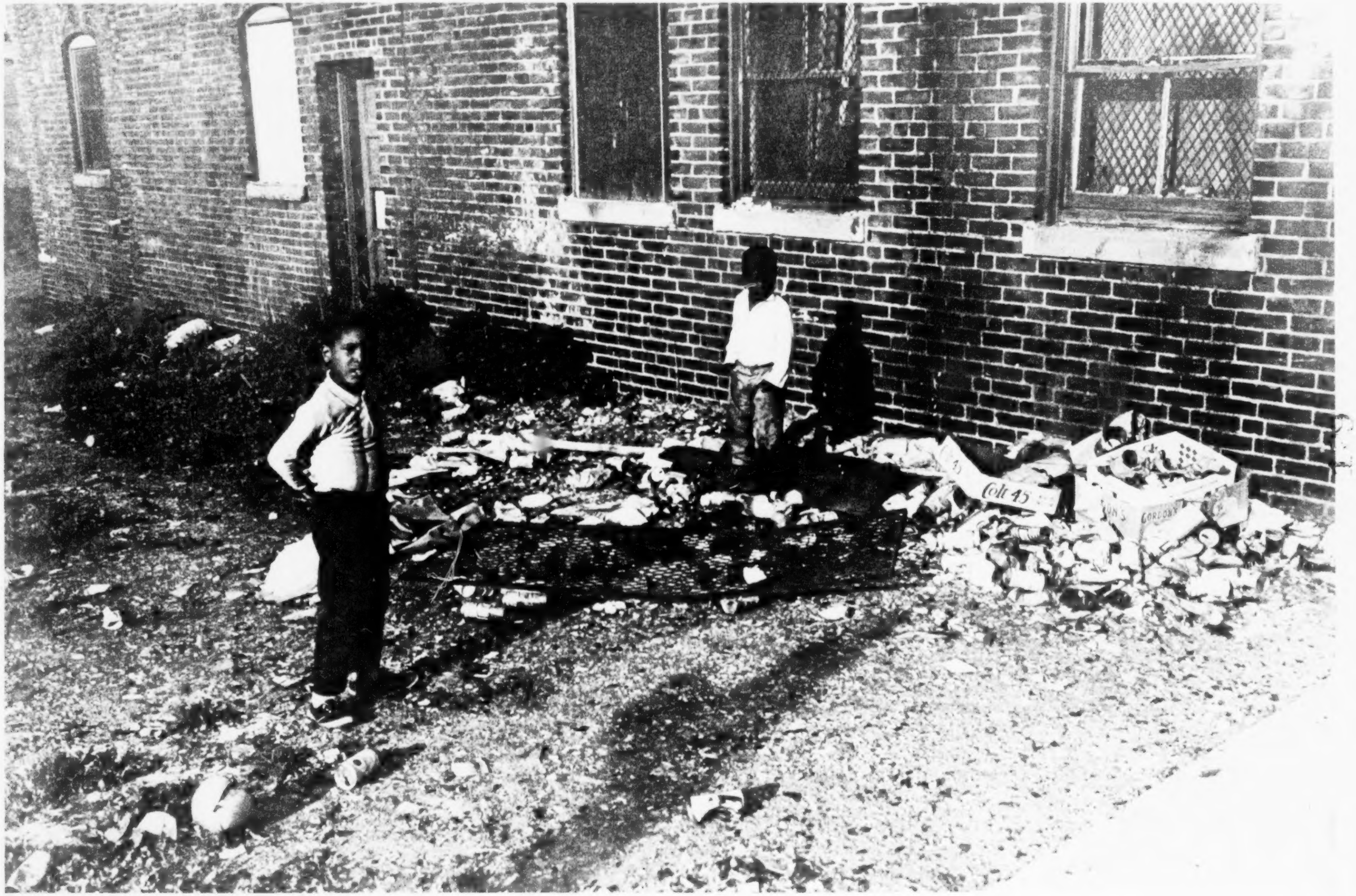
Discussion Leader: Charles H. Como, Clinical Consultant, Lincoln Filene Center, Tufts University; Elementary School Teacher, Lexington Public Schools, Lexington, Massachusetts.

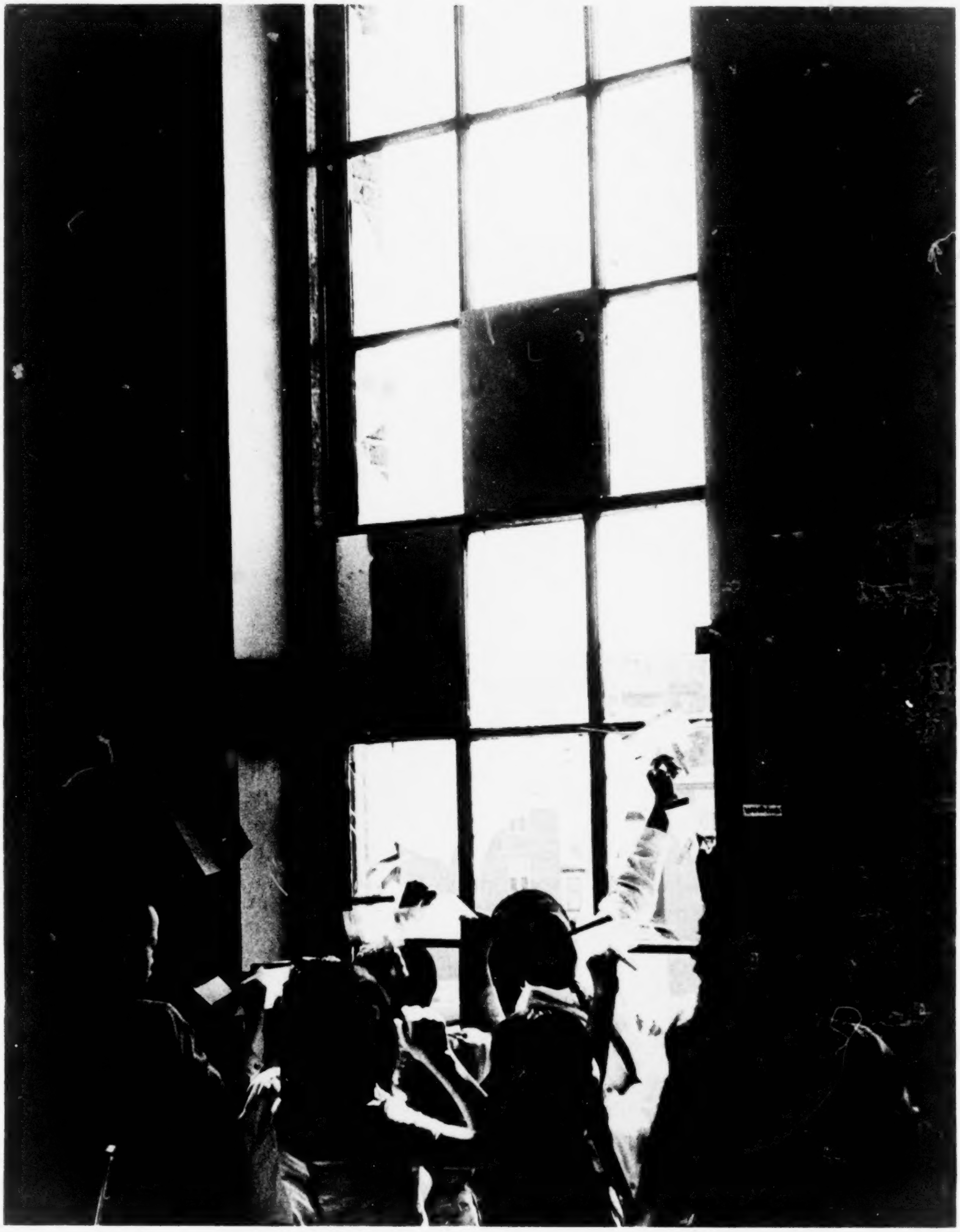
* * * * *

"Citizens of a Child's World: Reality versus Perception."

The objectives of the Intergroup Relations Curriculum are focused on helping the child to become an effective citizen in the American Society. Its methodology calls for inductive teaching and for very active participation by students in processes of role playing, discovery, inquiry, gaming, and other activities in the classroom. Through the material, examples of which are cited here, the student may be led to understand the necessity of not stereotyping people and to understand the forces that act upon people while they in turn act upon the forces of their varying environments.

E-4-128


Colt 45
GORDON'S



E-5-124

Issue: Political Power: The Games People Play.

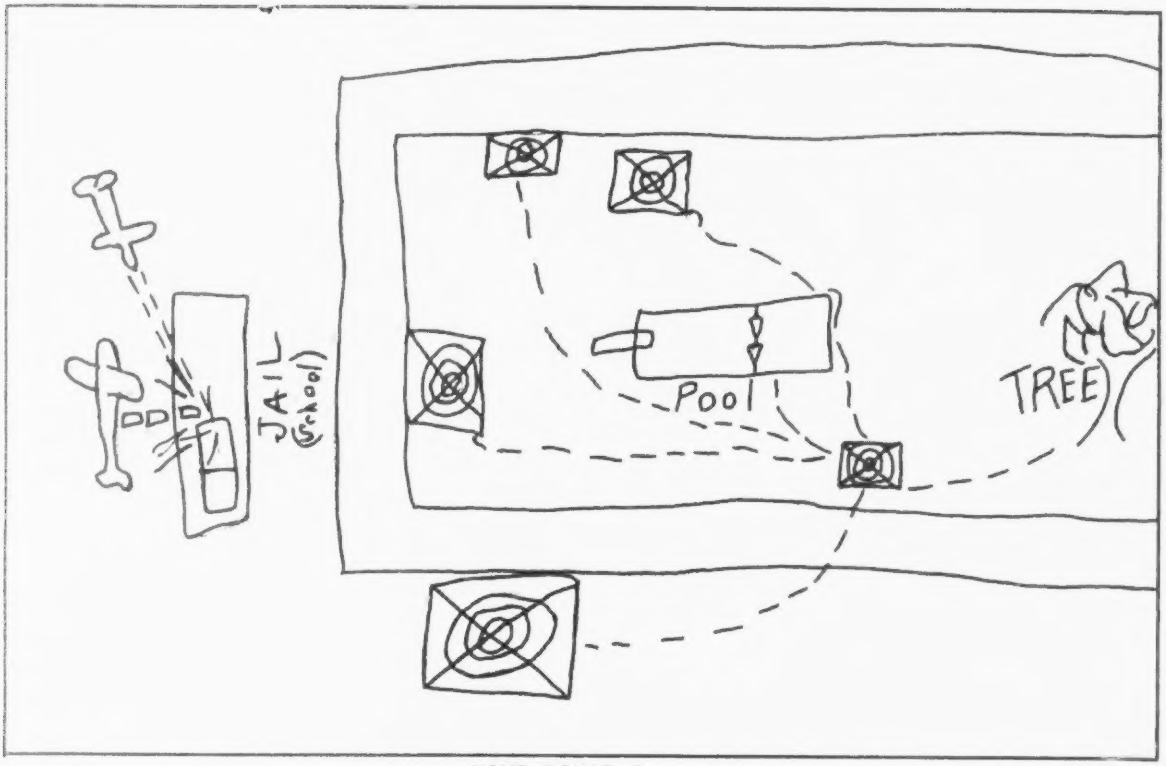
Topic: Environmental Quality: Management of Preferences.

Title: Some Implications of Children's Home-Range Behavior: "Where did you go? 'Out!' 'What did you do?' 'Nothing!'" With apologies to Robert Smith.

Descriptor: The arche-typal adult-child dialogue of the title above conceals the richness of children's self-gained knowledge of their personal share of activity. How can we tap this fund of knowledge to enhance geographic learning? The following maps should be studied with several questions in mind:

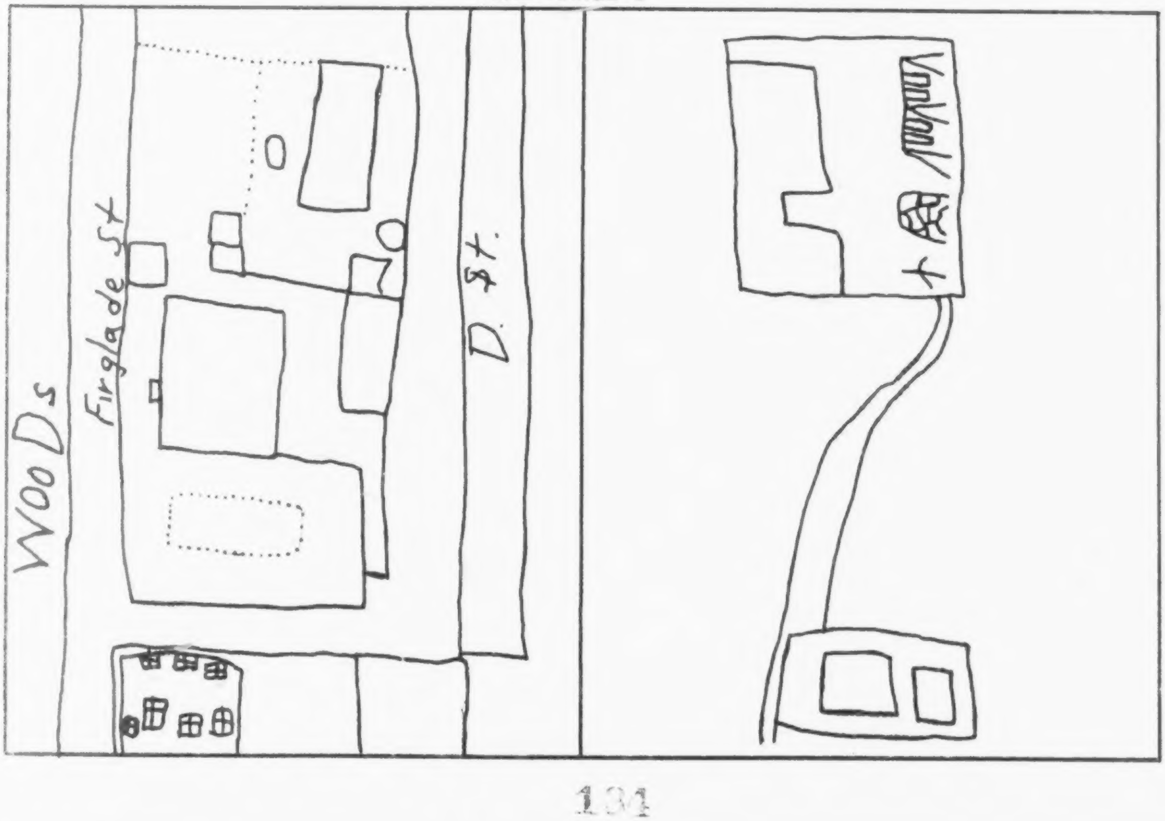
1) What can be learned from such a map?
2) How might such maps be best elicited from a class?
3) What geographic concepts might children learn from such maps?
4) What strategies might be employed to maximize such learning?
5) What are the implications of such activities for the planning of urban recreational facilities?

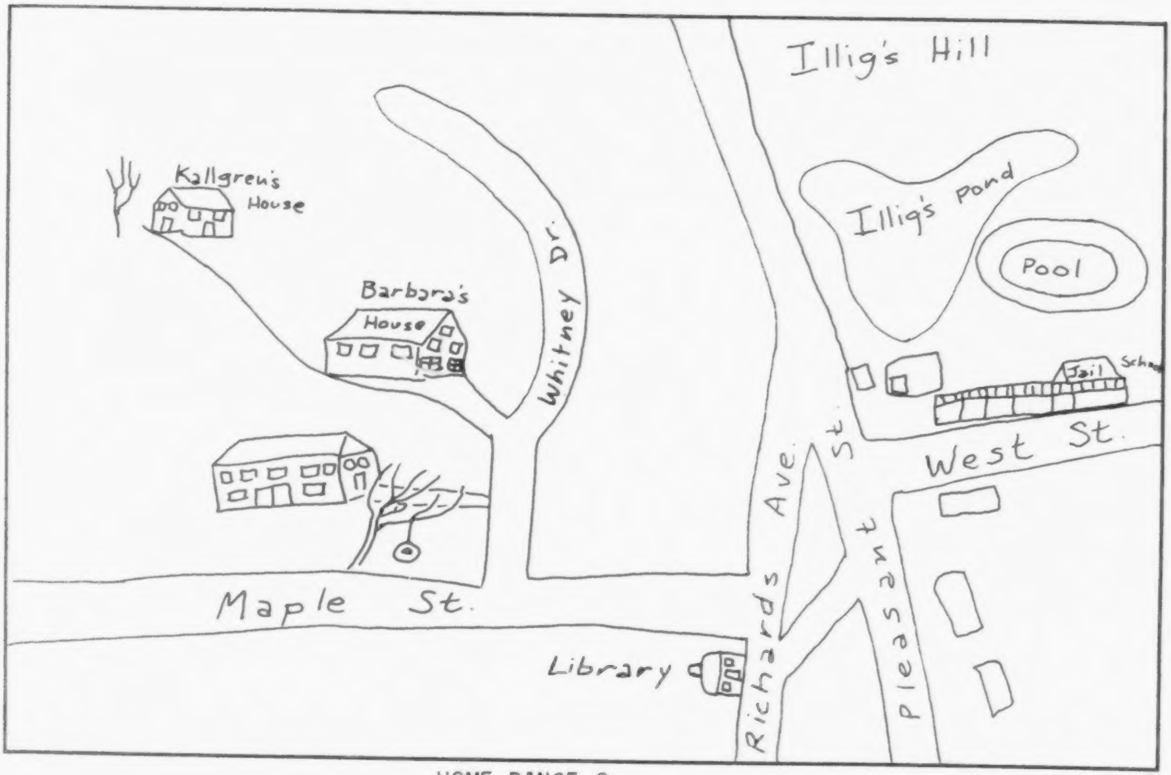
Discussion Leader: Jeremy Anderson, Eastern Washington State College, Cheney, Washington.


JAIL
(school)
Pool
TREE

HOME RANGE A

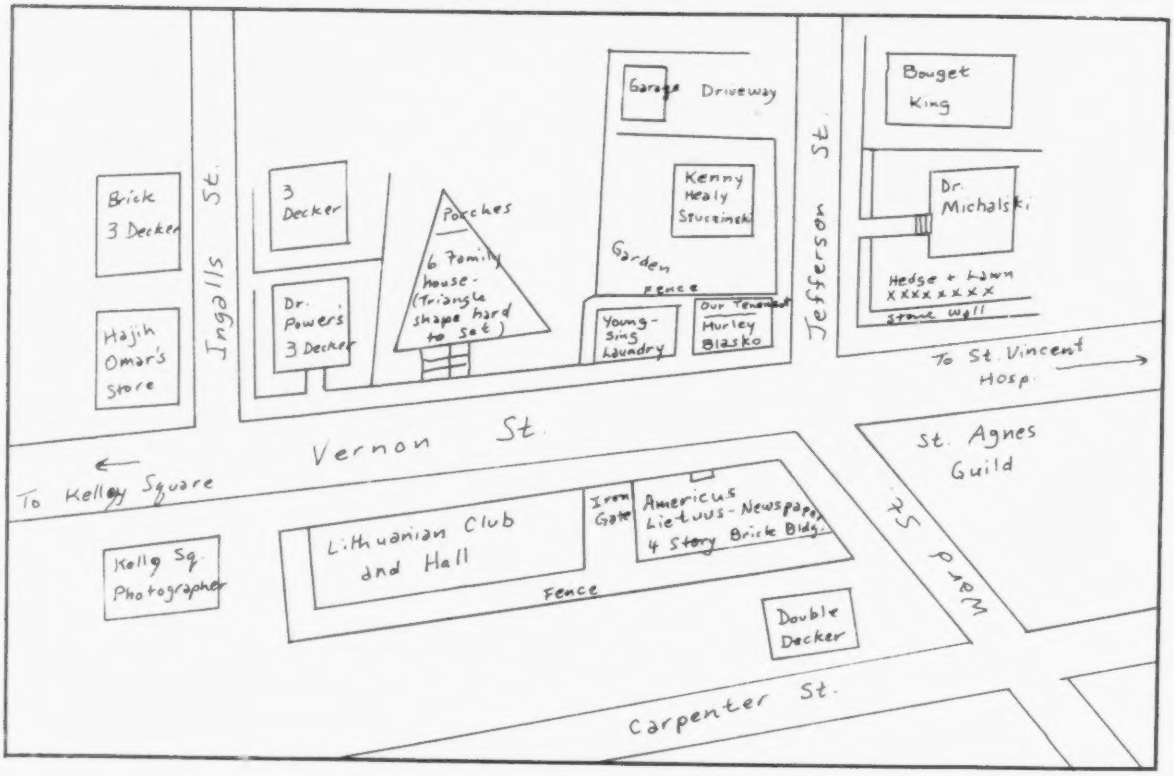
HOME RANGE B

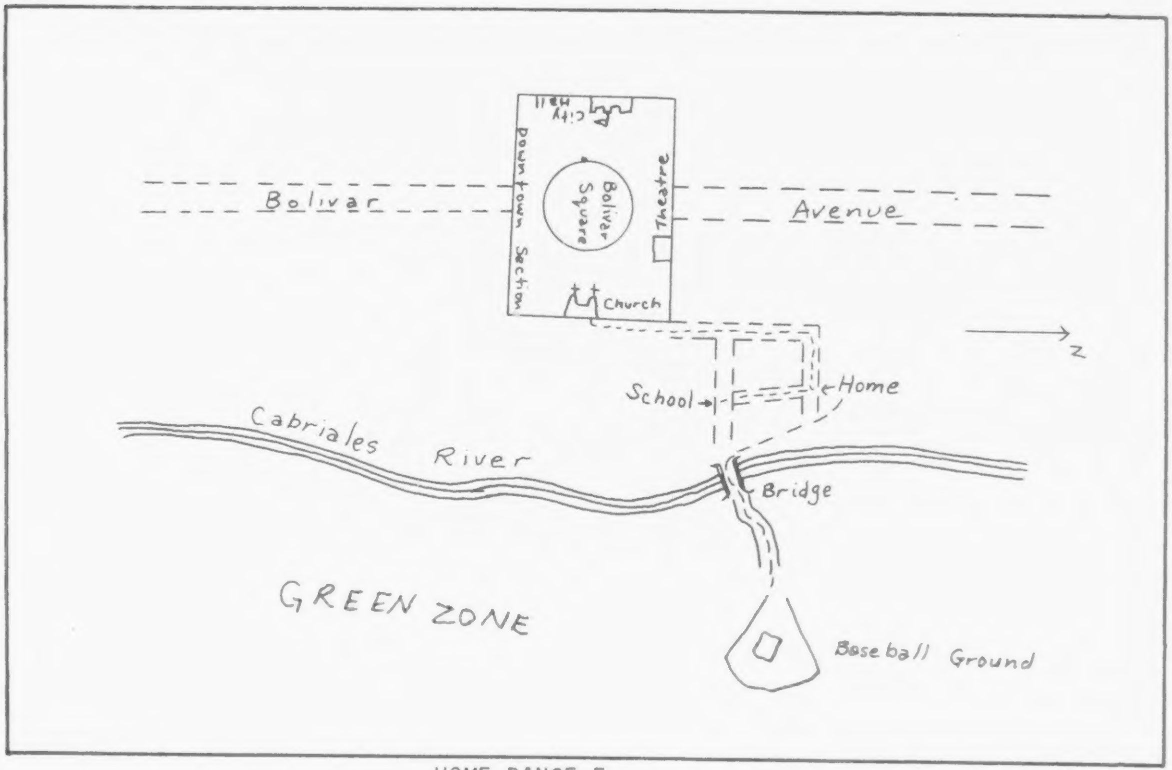

WOODs
Firglade St
D. St.


Illig's Hill
Kallgren's House
Illig's Pond
Pool
Barbara's House
Whitney Dr.
Jail
Scho
West St.
Richards Ave.
St.
Pleasant
Maple St.
Library

HOME RANGE C

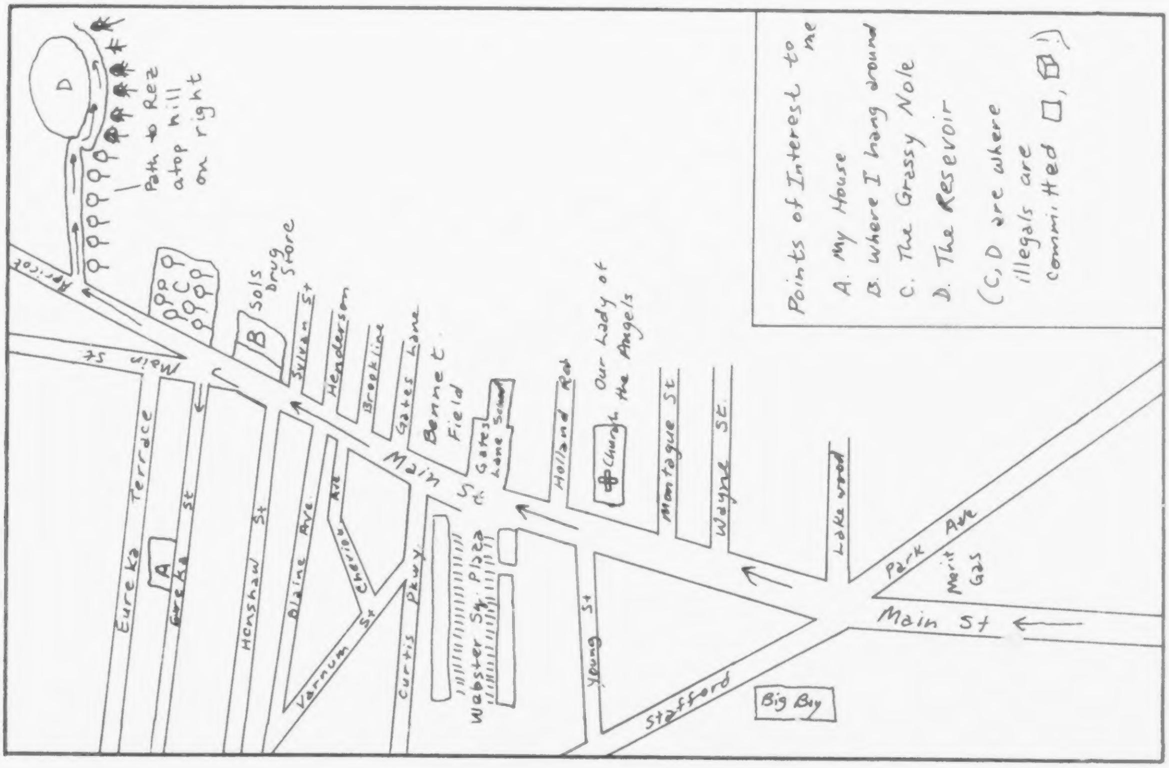
HOME RANGE D


Garage
Driveway
Bouget King
Brick 3 Decker
Ingalls St.
3 Decker
Porches
6 Family house- (Triangle shape hard to set)
Kenny Healy Stuczinski
Jefferson St.
Dr. Michalski
Garden
Fence
Hedge + Lawn
xxxxxxxx
Stone wall
Hajih Omar's Store
Dr. Powers 3 Decker
Young-Sing Laundry
Our Tenement
Hurley Blasko
To St. Vincent Hosp.
Vernon St.
St. Agnes Guild
To Kellogg Square
Iron Gate
Americus Lietuus- Newspaper 4 Story Brick Bldg.
Ward St.
Lithuanian Club and Hall
Kellg Sq. Photographer
Fence
Double Decker
Carpenter St.


City Hall
Bolivar Square
downtown Section
Theatre
Church
Bolivar
Avenue
N
School
Home
Cabriales River
Bridge
GREEN ZONE
Baseball Ground

HOME RANGE E

HOME RANGE F


Points of Interest to me
A. My House
B. Where I hang around
C. The Grassy Nole
D. The Resevoir
(C, D are where illegals are committed □, B!)
D
Path to Rez atop hill on right
Apricot
C
B
Sols drug Store
Main St
Sylvan St
Henderson
Brookline
Gates Lane
Bennet Field
School
Gates Lane
Holland Rd
Our Lady of the Angels
Church
Montague St
Wayne St.
Lakewood
Park Ave
Merit Gas
Main St
Eureka Terrace
A
Eureka St
Henshaw St
Blaine Ave
Cherico Ave
Varnum St
Curtis Pkwy
Webster Sq. Plaza
Young St
Stafford
Big Buy

E-5-128

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management of Preferences.

Title: "The Chattahoochee River: Charm or Chaos?"

Descriptor: Atlanta is uniquely fortunate in having about 50 miles of a wild, relatively unpolluted stretch of the Chattahoochee River within its metropolitan area. The problem facing the citizens of Atlanta is the use to be made of this undeveloped land.

The discussion will present problems involved in the choice of the use of the land. Who would use and benefit from such a park? In how many ways could the park be used? How could the land be secured for park use? How much would it cost? Who would pay for it? Would it be a national, state, city, county, or private park? Who would operate and maintain a major Chattahoochee River Park? Would there be any other indirect benefits from the development of this park?

Discussion Leaders: Eula R. Kuchler, Elementary School Teacher, Atlanta, Georgia

* * * * *

"The Chattahoochee River: Charm or Chaos?"

Classroom Resources Used

People and Their Environment. Teachers' Curriculum Guides to Conservation Education. 1969. A series of 8 books with lesson plans and bibliographies of other sources for instructional materials.
United States Geography-The South. 1965. Fideler Company. Traditional geographic concepts.
The Social Sciences Concepts and Values. 1970. Harcourt, Brace, Jovanovich, Inc.
Investigating Man's World 1970. ". . . a multidisciplinary conceptually structured and inquiry-oriented social studies program." Scott, Foresman and Company.
Adventure in Environment 1971. A National Park Foundation program produced with the cooperation of National Park Service. Silver Burdett Company.
Environment Education 1971. Picture Packet with Teacher's Manual. Sourcebooks for Environmental Materials.
Where Have All The Flowers Gone? Arrow Company, 1970.

Reader's Digest Reprints
"Crisis on Our Rivers" Dec., 1970
"Needed: A Bill of Rights for Our Rivers" July, 1971

E-5-129

AN IMAGINARY MEETING OF ATLANTA-FULTON COUNTY ZONING BOARD

Chairman
Mr. Smith-Real Estate Developer
Mr. Colt-Owner of land to be sold
Mrs. Goodwin) other landowners
Mrs. Wood)
Mr. Rankin)
Mr. Eatwell-Restaurant operator
Miss Smart-Teacher

Mr. Workman-Highway Department
Mr. Waters- Water Works Department
Mr. Taylor-Public Works
Mr. Green-Bureau of Outdoor Recreation
Mr. Jones-County Commissioner
Mrs. Lively-Sierra Club
Mr. Wall-State Legislator

Chairman: "Meeting will come to order. We've met to take up re-zoning of 30 acres of land on the east side of the Chattahoochee River from residential to commercial. We'll hear from Mr. Smith of the Smith Building Company."

Mr. Smith: "We have this unused land along the river's edge. It's not being used for a thing. When there were farms along the river this land could not be used to grow anything. Now, the owner, Mr. Colt, is willing to sell it. I plan to build a shopping center to serve the people who are moving out from the central part of Atlanta. I'll put stores, but the special attractions will be a restaurant built at the edge of the river so people eating can watch the river- and the other will be a Drive-In movie"..(General sound of disapproval)

Chairman: "Order, Please."

Mrs. Goodwin: "Mr. Chairman. I speak for the people who have homes in this area. My family lived on this land when Sherman crossed this river on his way to Atlanta. We don't want anymore business or people near our homes."

Mr. Smith: "But, Mrs. Goodwin, so many people are moving to Atlanta, children are growing up--We've had a population explosion-People and businesses have to move out where there is land."

Mrs. Goodwin: "Not our land. Go somewhere else."

Mr. Eatwell: "Mrs. Goodwin, don't you like to go to a restaurant to eat?"

Mrs. Goodwin: "Yes."

Mr. Eatwell: "Think how nice it would be to eat in a place built right over the water's edge."

Mrs. Wood: "I agree with Mrs. Goodwin. I don't want to look at all those buildings and people."

Mr. Colt: "Now ladies. You know that those old rocks don't amount to a thing. Nobody goes down there except those "River Rats that come even though I've put "Keep Out" signs all around. It's time for me to sell my land."

Mr. Smith: "Everybody would make a profit. Think of all the jobs when my company grades the land, builds the buildings, and paves the parking area--and then there'll be more offices and apartments built nearby and our city will be larger and more prosperous."

Mr. Workman: "All that is right - except - when you do all that building you'll have to have extra streets leading from the highway. My department has to struggle to keep up the streets we already have, much less build new ones."

Mr. Smith: "That shouldn't be a problem. Think of all the extra tax you'd get."

Mr. Waters: "We'd have to put in extra pipes for water. That calls for tax."

Mr. Bright: "Sewer lines would be a problem, too."

Mr. Smith: "No, I've checked that. That new line across the river in Cobb County is to be used by Fulton County, also."

Mr. Taylor: "That's going to overload it if you bring in all the building you say your center will. We'll be having poorly treated sewage going into the Chattahoochee River. It's already polluted below Peachtree Creek and we are having to get that cleared up at much expense. We'd have to vote on another bond issue to pay for more. And, people say they are paying all the tax they can. Why don't you clear out some old run-down part of the city where there are already sewer lines and water mains?"

Mr. Smith: "You know that would cost more to buy that land and tear down than this would."

Mr. Rankin: "I live downstream where Peachtree Creek runs into the river. I'm an engineer and I know what I'm talking about. I don't want to see those hills graded. The trees and plants hold the water and top soil. If you cut the trees, level off the dirt, and then pave everything, I'll have to have a boat to get out of my yard. The sand and dirt fill up the river bed. When it rains in the mountains, water rushes down, and when it rains here, water will wash off the concrete. Think of all us downstream. You'd have to build walls to hold back dirt and water."

Mr. Smith: "The Public Works Department could do that."

Mr. Taylor: "Taxpayers wouldn't like that. Your company would have to."

Mr. Smith: "That would add to the cost."

Mrs. Wood: "Concrete walls along the river like a tunnel!"

Mr. Green: "Ladies and Gentlemen. There's another way to use the land you haven't mentioned."

Chairman: "Another way, Mr. Green?"

Mr. Green: "Yes. Make a riverside park."

Mrs. Woods: "And have everybody's land run over by River Rats?"

Mrs. Goodwin: "All that noise. - Why motorcycles come roaring by now."

Mrs. Wood: "All those people at all hours."

Mr. Green: "Let's think a little. It wouldn't be bad at all. Mr. Colt, you're ready to sell your land. You admit it's not used. It could be. It could be for a lot of people. Our Chattahoochee River is not a polluted stream from Lake Lanier to Peachtree Creek. A lot of the land is wild just like your banks. It hasn't been built on since the Creeks and Cherokees camped on it. There are animals, wild flowers, and trees. Imagine how many people in Atlanta have never walked in a natural wooded area. Think what it would mean to them - especially boys and girls. You know how many thousands of people came out last spring for the trips down the rapids. The river was full of rafts, canoes, and even inner tubes."

Mrs. Goodwin: "I wouldn't want them running over my property to get to the river. I'm glad they've put "No Parking" signs up and I hope the police will tow away every car that parks."

Mr. Green: "If land is set aside for a park, people wouldn't have to trespass to get to the river."

Mr. Colt: "You mean you'd just take my land and make a park out of it? Nothing doing."

Mr. Green: "No. Our government in Washington knows that Atlanta is very crowded like all growing cities and doesn't have enough parks. The Bureau of Outdoor Recreation has been studying the area and recommends putting a park along the river."

Mr. Colt: "Government take my land and not give me anything for it. Bah!"

Mr. Green: "Mr. Colt, just hold on. Nobody will do that. You'd be paid."

Mrs. Goodwin: "If his is used for a park, then our land would not be worth as much."

Mr. Jones: "Mrs. Goodwin, if your land is near an open space in an urban area, its value increases. It would be worth more joining a park than next to a drive-in movie."

Mrs. Goodwin: "You mean I'd have to pay more tax?"

Mr. Jones: "Wouldn't it be worth more?"

Mrs. Goodwin: "Maybe so. But I'd want a high barbed wire fence."

Mrs. Wood: "I don't mind paying tax for our space program, war in Viet Nam, schools and highways, but I won't pay extra tax for buying land for a park. - Such foolishness!"

Mr. Green: "It's not foolishness, Mrs. Wood. Suppose the government does get the land. We'd like for the land to stay a natural area mainly. We'd like to buy some access land by the highways to keep the public from trespassing. Cars could park. People could get to the river without walking over your land. They could swim or put boats in the river."

Mr. Rankin: "What happens to the land along the river?"

Mr. Green: "We think there should be parts to fish, picnic, camp, but especially city people need a place to walk and enjoy nature."

Mrs. Goodwin: "This is so close in we'll be overrun with bird watchers and longhaired hippies."

Mr. Green: "There are all kinds of people in a city like Atlanta, but we'd try to see that the park would be used by grownups, teenagers, and boys and girls. It could be used by church, school, scout, and family groups. It would cost very little to enjoy the park. We'd hope to have it managed like the National Parks."

Mr. Smith: "All that would cost money - millions of dollars! You've just heard these gentlemen say our taxes are already so high that they don't think they would have money for the extra services for my shopping center. Why do you think they'd agree to just throw money away on play? Why should rocks and trees have right-of-way over my development?"

Mr. Green: "If the land is used for your shopping center, a natural resource that cannot be replaced is being used. What is it worth to Atlantans today and to future citizens to go just a few minutes from downtown and have a chance to walk up a wooded hillside with a cliff over a million years old, to look across a wild river gorge, or to have access to an unpolluted section of a river for water sports? Can you put a price tag on it?"

Mr. Colt: " I can put a price tag on my land before you get it."

Mr. Green: "Yes, Mr. Colt, we'd hope to give you your price for your Palisades."

Mr. Colt: "You mean you'd actually give me as much as Smith would?"

Mr. Green: "I hope so."

Mr. Colt: "Right now?"

Mr. Green: "No. The Bureau of Outdoor Recreation is presenting its plan in Washington. If it is accepted, Congress would have to vote to set aside the money to buy it and to operate it."

Mr. Rankin: "Oh, Good! It would be given to us without the county raising the tax on my house. There wouldn't be any cost."

Chairman: "Not exactly. The price would be paid by all the taxpayers in the whole United States."

Mrs. Woods: "Why would people in other parts of the United States like ones in Utah have to help pay for an Atlanta park?"

Mr. Green: "Atlanta is the center for many industries. People come from many states to work or visit Atlanta. Some move away and others come to take their places. People like to live where there is good recreation close by."

Mrs. Lively: "Our Sierra Club is interested in the Chattahoochee River Park, for we think our nation would be stronger if the people are more healthy and concerned about our natural resources. Boys and girls who grow up knowing about the outdoors will be better citizens."

Miss Smart: "I teach in a school in a crowded neighborhood where the children have no grass, trees and flowers. The only wild animals they know are rats and sparrows. I'd like to see this land made into a park where I could bring these boys and girls to study nature, and picnic."

Mrs. Wood: "Everything is for the young people these days. What about us older ones?"

Mrs. Lively: "Middle-aged people are finding that they need more outdoor recreation, too."

Mr. Colt: "All this is fine, but when would I get my money?"

Mr. Green: "Maybe soon, maybe 5 years or 10 - could be never."

Mr. Colt: Well, I'll just let Mr. Smith have my land."

Chairman: "Not so fast. Your land has not been zoned for commercial use."

Mr. Rankin: "This park idea sounds pretty good. If Congress is spending so much money on the war and space programs, will it have enough to buy and operate parks, too?"

Mr. Green: "We hope so. There are limits to federal taxes, too. Sometimes Uncle Sam says if a state or county or city gets a certain amount of money, the federal government will match that amount. We might have our state, county, and city governments working together."

Mrs. Lively: "I say let's get the land however we can. When people like Mr. Colt are ready to sell, let the city or county buy the land piece by piece and keep it up until the federal government takes over the whole Parkway."

Mr. Rankin: "Why not just let us have an Atlanta or Fulton County park?"

Mr. Green: "It ought to be for people of the whole state and the Southeast. The cost would be too much for a park of the sort we need. Tax raise."

Mr. Rankin: "If it's for the whole state of Georgia, why doesn't our legislature pass some kind of laws to help get the park?"

Mr. Wall: "I introduced a bill in the General Assembly in 1971. It did not get voted on. I'll try again next year."

Mr. Colt: "Do you folks expect me to wait around for years to sell my land? I may be dead by then!"

Mrs. Smith: "I have my rights. This land is not being used. I need it. The people living near here need it for a shopping center. I demand my rights."

Mr. Jones: "We are all interested in protecting everyone's rights."

Miss Smart: "Think what my students are missing. Maybe the school children could start a drive to save our river."

Mr. Eatwell: "If you have a park, you'll need a place for people to get food. You'll need my restaurant."

Mr. Green: "Not in the park or right on the river. Maybe further back."

Mr. Rankin: "I read in the paper that a foundation has given several million dollars for a whole square block at Five Points - the very center of the city for a midtown park and maybe the public library. Seems to me that some foundation or rich people might like to help save some of this land around the Chattahoochee."

All: "Good - that's a fine idea."

Mrs. Goodwin: "I have a strange feeling. If this park is set up right and somebody sees to it that there is not a lot of littering and vandalism going on, I'm sure my ancestors would rather have our land go for a park than for a parking space for a shopping center or office buildings."

Mr. Taylor: "Mr. Chairman, I move that we adjourn. We should not decide on this zoning at this time. We need to study the cost of the extra services such as Mr. Smith's would need. We need to study how it effects the whole environment against the extra taxes those new shops would bring."

Mr. Waters: "I am in favor of waiting to decide. I am concerned about our water supply. Looks as if a park would help our water problem. Let's find out more. How much it will really cost? Let's call a meeting with some state groups and some federal people and see if we can work together. While we are studying the park plans, let's not rezone any land right beside the river. This could be a great project."

Mr. Smith: "Where does that leave me? What about my project?"

Mr. Jones: "There are other lands that are still undeveloped. They are not along the river, but we'll help you find some other that might be suitable. We'll work together."

Chairman: "This meeting is adjourned until we can meet with the interested people to try to save our unpolluted river basin for a park."

E-5-136

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management of Preferences.

Title: "The City and Government: The Art of Making Choices."

Descriptor: Governmental organizations must allocate resources authoritatively. Often they must cope with conflicting interests. The filmstrip "The City and Government" deals with such a problem - a zoning commission which must decide whether a vacant lot is to be used as a neighborhood playground or for an apartment building. Participants from the audience will role-play the zoning commission. They will be aided in reaching their "decision" by photographs of two models of land use and accompanying maps, all produced by third grade children.

Discussion Leader: Joseph A. Rueff, Coordinator Social Science Research, Elkhart, Indiana, Community Schools.

* * * * *

"The City and Government: The Art of Making Choices."

Overview:

The Elkhart Community Schools use as basal materials for primary social studies the Our Working World program by Lawrence Senesh and published by SRA. The third grade series, "Cities at Work", contains a set of correlated filmstrips. One of the filmstrips, "The City and Government," was being used as the basis for discussions regarding what governmental authorities must consider in making decisions. As a culminating activity students are to imagine they are members of a city zoning commission confronted with conflicting requests for the use of a vacant lot. Neighborhood residents wish to have the lot become a neighborhood park. A developer wishes to build an apartment on it. As students were considering the decision it became evident that many felt that they needed more information concerning land use in the city and the interrelationships of the various city subsystems. Consequently the class undertook the following project which they felt would help them reach more rational conclusions. They decided to construct two hypothetical models, one of a neighborhood in which the vacant lot could be located and one of a city in which the neighborhood could be located. Miss Bollero developed the following objectives around which the project unfolded.

Objectives:

1. Given the general land use map from the filmstrip "Why Must Cities Plan", students can construct two models; 1) a model of the city depicting land use and major streets, and 2) a model of a neighborhood within the city in which the vacant lot described in the filmstrip "The City and Government" could be located.

2. In the development of the two models, students can utilize appropriate symbols for various land uses.

3. After constructing the two models, students can identify common elements in each and locate the "vacant lot" in each.

4. In constructing the two models students can differentiate between major land uses in the city and cite logical reasons for location of residential, business, industrial, public service and recreational areas.

5. In constructing the two models, students can comprehend the difference in scale.

6. In constructing the two models students can differentiate between inner city and other residential areas and cite logical reasons for the differences.

7. After constructing the models, students can draw a freehand map of the city, using appropriate symbols to depict land use.

8. After constructing the models, students can evaluate the conflicting requests regarding the use of the vacant lot described in "The City and Government."

Strategies:

1) Materials:

Our Working World, "Cities at Work" series, basal social studies materials "Cities at Work" Filmstrips, "The City and Government" and "Why Must Cities Plan" materials for city and neighborhood models:

- cardboard
- sugar cubes
- soap for carving
- scrap wood
- "Monopoly" houses
- tempora paint
- glue
- yarn
- masking tape of varying widths
- landscaping display shrubbery

2) Procedures:

1. The class viewed the filmstrip "The City and Government." After the initial viewing and discussion the strip was available for individual and small group viewing as needed.

2. Two groups of about six students each were formed to construct the city and neighborhood models. They considered the following things in their planning:

a) How big will each model be? What should it look like when completed?

b) What size should the buildings be?

c) What different kinds of city needs should be included? Children suggested hospitals, schools, public buildings, streets and highways, factories, a business district, offices, houses, hotels and motels.

d) Which of these needs would be included in the neighborhood model?

3. The groups then considered the kind of neighborhood and city which was described in the filmstrip, "The City and Government." They decided that the neighborhood was probably in the inner-city because of the kinds and the conditions of the buildings.

4. Each group studied the filmstrip "Why Must Cities Plan" as a basis for planning their models. The land-use map in the filmstrip furnished a basis for the designs.

5. Each group made preliminary sketches of their model on newsprint.

6. Construction of the models then began. Boundaries and main arteries were then laid out on the cardboard base. Areas were painted. After each group decided what its model was to represent, it collected and constructed buildings. Students discussed their placement. Since most were not glued down, they could be re-arranged until members were satisfied they were logically placed. (Photos illustrate completed models.)

7. All students then drew freehand maps of the city using an appropriate key to illustrate land use. Some chose to draw a simplified version while others included more detail, including the neighborhood model. (Samples of these maps are included.)

8. With these maps now available to them, students could discuss more rationally the decision the zoning commission should reach regarding the use of the vacant lot described in the filmstrip "The City and Government."

FOR THE CONVENTION SESSION:

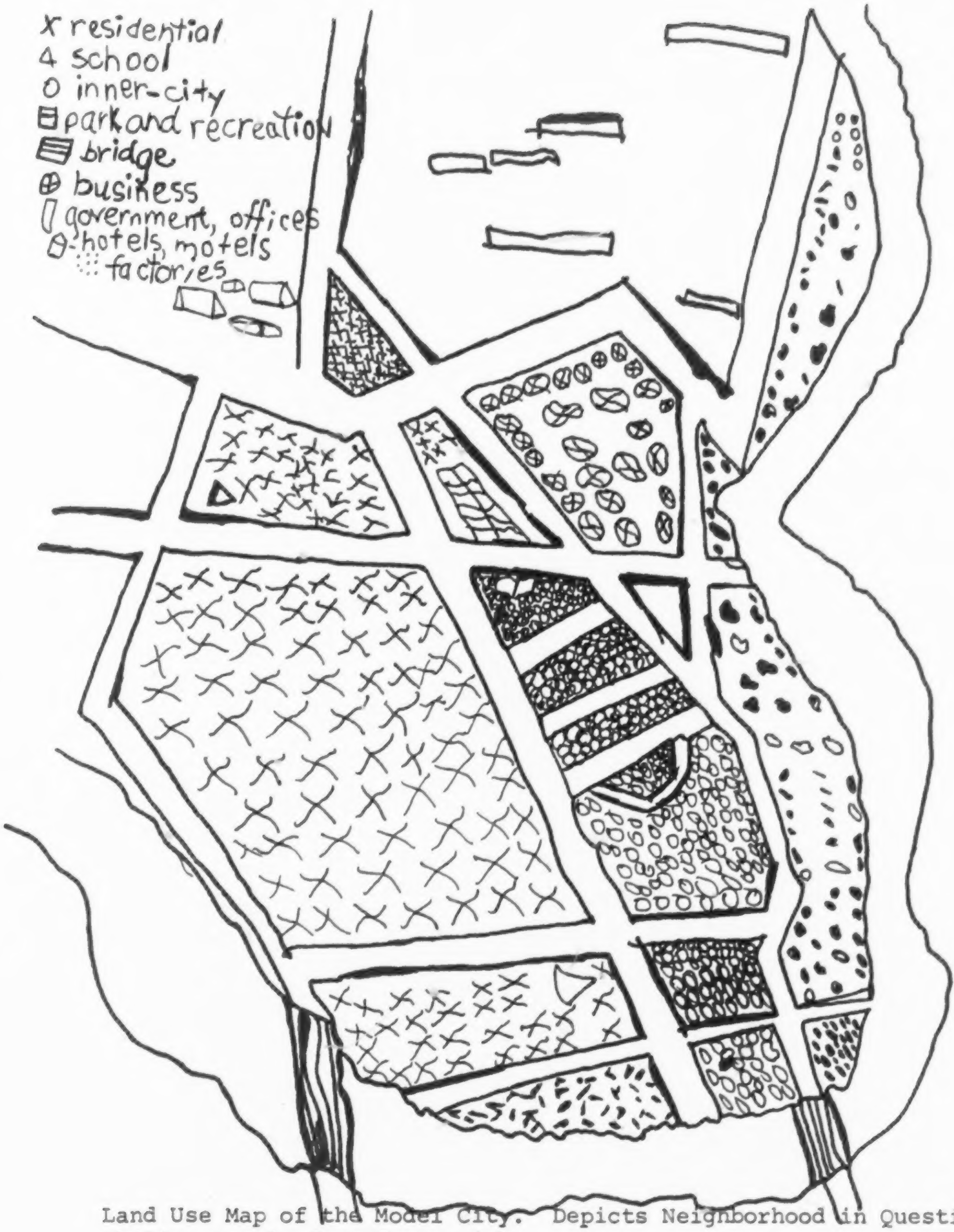
Participants will see the filmstrip "The City and Government." A"zoning commission" will be selected from the audience. Using the information described in the filmstrip, plus the illustrations of the models and the student maps, members of the "commission" will discuss the relative merits of the requests for use of the vacant lot.

Possible extensions of the project:

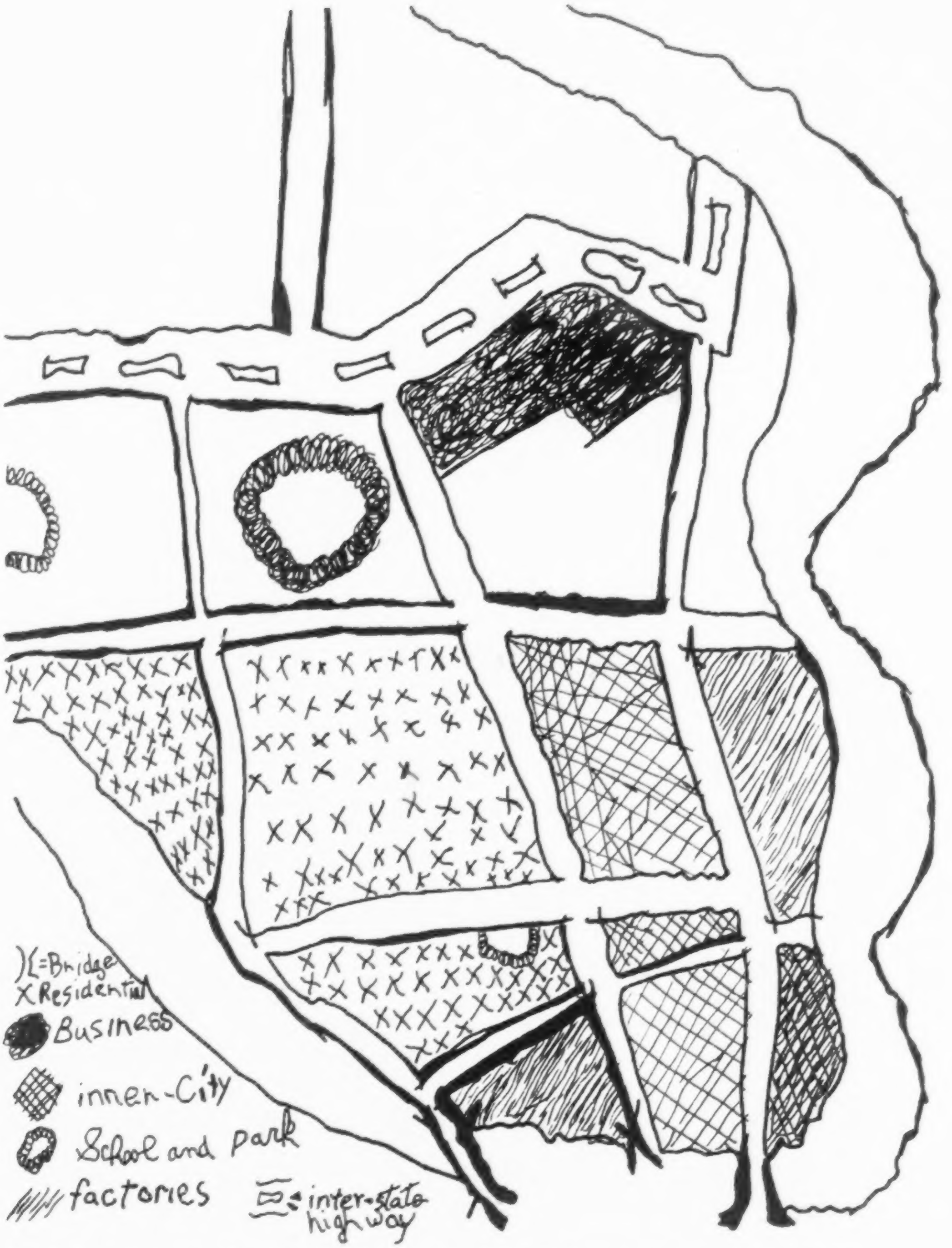
1. Children can draw separate maps of the city showing each of the major land use areas. The teacher can develop transparency masters of the same for use in discussion.

2. As the models are used in conjunction with later units the children may find inconsistencies in the placement of some of their items. Changes and/or additions can then be made.

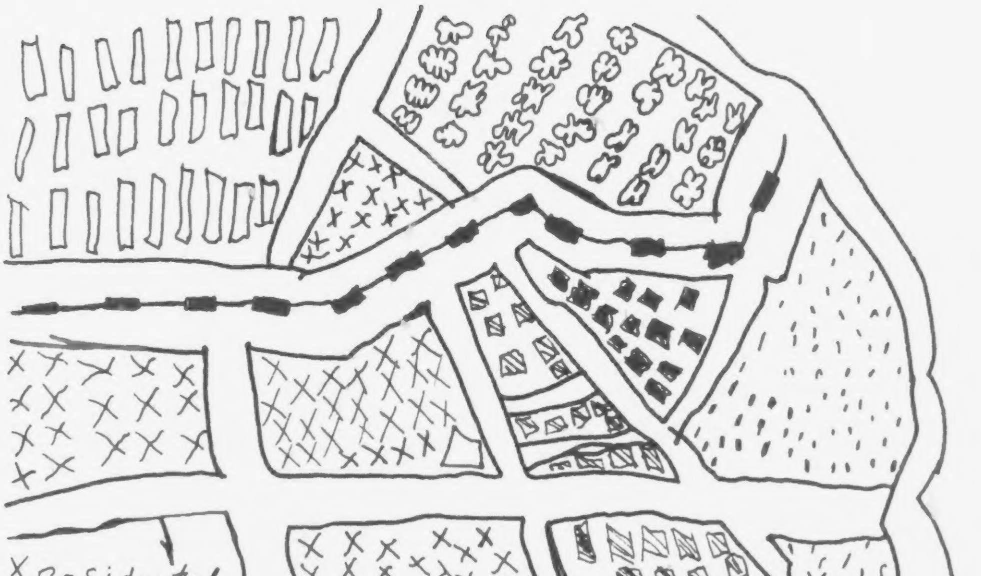
3. Children can name the streets depicted in the models. They can then develop street maps to study potential transportation problems and to suggest possible solutions. Simple exercises such as telling the best way to get from one place to another can incorporate the development of the use of cardinal directions.


x residential
4 school
O inner-city
park and recreation
bridge
business
government, offices
hotels, motels
factories

Land Use Map of the Model City. Depicts Neighborhood in Question.
Ability Level of Student: High

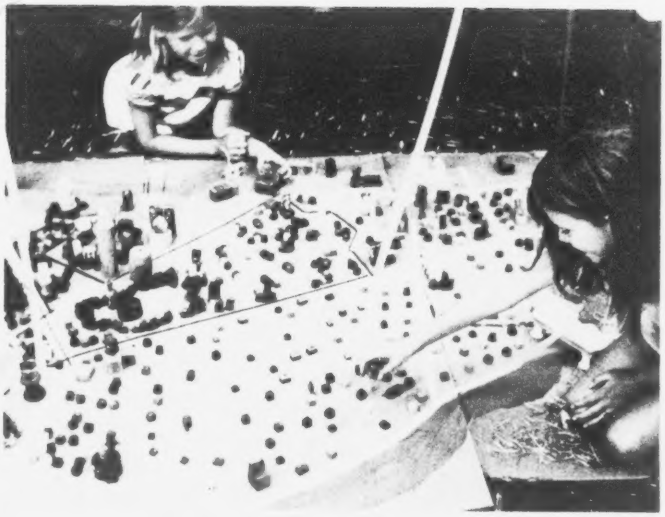

)(=Bridge
X Residential
Business
inner-City
School and park
factories
inter-state highway

Land Use Map of the Model City. Depicts Major Areas and Arteries.
Ability Level of Student: Average


Residential
Schools
Business
Inner-City
bridge
goverment, offices
Industrial
hotel motel

Land Use Map of the model city. Depicts neighborhood in question. Ability level of student:Low Average.

Third grade students at Riverview School point to the vacant lot under consideration on the city and neighborhood models.



Students place models of different kinds of structures on the model. They understood that these symbolize the kinds of structures to be found in each area and do not stand for individual buildings in most cases.

Class members put finishing touches on the neighborhood model. The area outlined by shrubbery in the center of the model stands for an educational park.

Yarn outlines the boundary of the neighborhood on the city model. Ribbon ties this area with the neighborhood model of a larger scale on the table.

Issue:	Political Power: The Games People Play.
Topic:	Environmental Quality: Management of Preferences.
Title:	"The Child as an Urban Geographer: Where Do the Children Play?" (Children's Cognition of Environment)
Descriptor:	Every child is a geographer, that is, all children actively interact with their surroundings through play, exploration, and everyday activities. These awarenesses can and should be made a part of formal classroom experiences. This session proposes a set of strategies for doing this.
Discussion Leaders:	Dennis G. Asmussen, O. Fred Donaldson, TTT Project, University of Washington, Seattle.

* * * * *

"The Child as an Urban Geographer: Where Do the Children Play?"

EXERCISE I

Session___________

Age___________; Sex M F; Residence___________________________

Draw below a sketch map of your favorite surroundings:

1. How did you determine the boundary of the place?

2. Is the boundary a physical feature, a feeling, or both?

3. What features best represent the area inside the boundary?

E-5-144

Discussion topic for Buzz Groups:

HOW DOES SPACE BECOME PLACE?

EXERCISE 2

Session_________
Age_________; Sex M F; Residence________________________________

Draw below a sketch map of your neighborhood:

1. How did you determine the boundaries here?

2. What would you tell a stranger about your neighborhood to enable him to find it?

Discussion topic for Buzz Groups:

WHAT IS A NEIGHBORHOOD?

Bibliography

Fatouros, Dimitris A. "The Physical Environment As A Field of Learning," Ekistics. Vol. 26 (December, 1968), p. 520-521

Hill, Poly. "Pre-School Play Space," Habitat Vol. 12 (1969), p. 19-26.

Keller, Suzanne. The Urban Neighborhood, New York: Random House, 1968.

Larrick, Nancy. On City Street, New York: Bantam Books, 1968.

Lynch, Kevin and Lukashok, Alvin K. "Some Childhood Memories of the City," Journal of the American Institute of Planners, Vol. 22 (Summer, 1956), p. 142-152.

Mead, Margaret. "Neighborhoods and Human Needs," Ekistics. Vol. 21 (February, 1966), p. 124-126.

Mendoza, George. The World From My Window. New York: Hawthorn Books, Inc., 1969.

Mitchell, Lucy Sprague. Young Geographers: How They Explore the World and How They Map the World. New York: Basic Books, 1963.

Pitt, Gilliam. "A Child's World," Town and Country Planning, Vol. 36 (October-November, 1968), p. 440-442.

Saarinen, Thomas F. Perception of Environment. Resource Paper No. 5 Association of American Geographers, Commission of College Geography, 1969.

E-5-146

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management of Preferences.

Title: "Our Crowded, Dirty World: The Development of Our Environmental Crisis and Its Impact Upon One's Habitat."

Descriptor: Pollution in America: When did it begin? What causes pollution? What evidence is there of man's misusing his environment? What are the repercussions of man's altering his habitat? Is all pollution man-made? Can laws correct pollution problems? These and other questions will be explored through the materials listed above.

Discussion Leaders: Anne C. Garrett, Fairfax County School, Fairfax, Virginia.

Betty Ann Kozak, Prince George County Schools, Upper Marlboro, Maryland.

* * * * *

OUR CROWDED, DIRTY WORLD

Our Crowded, Dirty World, is intended to help teachers in developing an ecological unit. The enclosed materials are offered to assist in establishing such a unit.

The suggested environmental walk can be applied to any school area. This experience provides opportunities for the student to examine and evaluate data, hypothesize with regard to collected data, and draw conclusions on the basis of evidence presented. It is recommended that teachers contact their local park authority for more materials.

Dittoes of the map showing pollution in our capital and a wealth of other information can be obtained free from the Washington Post Public Relations Department.

The brief bibliography will enable teachers to obtain free and inexpensive materials on pollution.

ENVIRONMENTAL WALK ACTIVITY

Student Guide

I. Air Pollution

A. Does the air smell clean?
Yes_____ No_____

B. As you walk about the school check all the sources of air pollution.

_____factories
_____homes
_____automobiles
_____incinerators
_____garbage cans
_____buses
_____dump trucks
_____airplanes
_____open fires
_____people (cigarettes)
_____other

C. Collect some pollutants

a. Hang vaseline coated cards or pieces of cheesecloth in different locations and in different weather. Compare the particulates trapped on a sunny day, foggy day, windy day, etc.

b. At a tree near a bus stop wipe a leaf with a tissue
Wipe a leaf of a tree away from the street and traffic
Compare tissues

c. Look for a car that shows signs of rust. How old is the car?
Find a car that shows no evidence of rust. How old is that car?
Compare

d. Sandpaper a small part of the stone on the outside of the school. Is there a difference in color?

e. Is one part of the outside of the school building dirtier than another part?
_____yes _____no
Why?____

II. Noise Pollution

Listen to the sounds around the school.
Make a list of the sounds
Which ones could be listed as:

_____very noisy
_____noisy
_____moderate
_____quiet

III. Land Pollution

A. Litter
Collect litter around the school

B. Erosion
List the evidence of soil erosion around your school; find out what the cause of it is and what can be done to prevent it.

C. The process of plant photosynthesis adds oxygen to the air. Could the grounds around the school use more plants and trees?

IV. Man's Effect
   A. What evidence is there that man has changed this environment?
   B. What kinds of wildlife do you see or have you seen?
   C. Was the change good? (value- judgment.)

V. Suggested Follow-up Activities
   A. Illustrations of what the environment would look like if man had not changed it.
   B. Cartoons showing man's effect on his environment.
   C. Make creatures out of collected litter.
   D. Make a graph showing levels of noise pollution.
   E. Make comparison maps of before and after man.
   F. Dramatization of man's effect on wildlife.

BIBLIOGRAPHY

Our Crowded, Dirty World

Lehrer, Tom. "Pollution." Burbank, California: Warner Brothers Reprise. Record, 45 rpm.

National Film Board, Canada: "Boomsville." Learning Corporation of America. Film.

National Wildlife Federation. 1970 National EQ Index "America is in Trouble." National Wildlife Magazine Reprint, October-November, 1970.

Washington Post. "Caution: Pollution May be Hazardous to Your Health," 1970.

Washington Post. "News Map," Ditto Master, August 13, 1967.

Washington Post. "Pollution...An Exaggerated View?" Filmstrip, 1970.

Note: All of the above items with the exception of the film "Boomsville" can be obtained free.

Selected Source Material

Committee for Environmental Information. Environment. This magazine is published ten times per year. CET, 438 North Skinker Boulevard, St. Louis, Mo 63130.

DeBell, Garrett. (ed.) The Environmental Handbook. New York, New York. Ballantine Books, Inc. 1970. This paperback ($ .95) was prepared for the National Environmental Teach-in.

*Fairfax County Park Authority. Kit on Conservation and Environmental Education. Annandale, Virginia: 1970. Materials include bibliographies, field trip suggestions, suggestions on what a citizen can do about the environmental crisis. Call Mr. Aldrich at FCPA, 941-5009

*Contact local park authorities.

Heylman, Katherine M. "The Little House Syndrome vs. Mike Mulligan and Mary Anne: A Mobilization of Juvenile Books on Ecology, Conservation, and Pollution." School Library Journal. (April, 1970)

National Audubon Society. A Place to Live. New York: 1970. This paperback is a workbook for third and fourth graders on urban ecology. Activities involve writing or drawing in the book as well as group activities. Teacher's Manual $1.50; student manual, $ .75. The National Audubon Society, 1130 Fifth Avenue, New York, New York 10028.

National Education Association. Man and His Environment: An Introduction to Using Environmental Study Areas. Washington, D. C.: NEA, 1970 ($1.75)

National Geographic. "Our Ecological Crisis". Washington, D. C.: National Geographic Magazine, CXXXVIII (December, 1970), pp 737-795

Needham, Dorothy. "Pollution - A Teaching and Action Program", Grade Teacher, LXXVIII (October, 1970), pp. 24-26

Science and Children. Magazine for Teachers.

Science Digest. Magazine for students.

Virginia Water Control Board. Water Pollution Kit. Richmond: Commonwealth of Virginia, 1970
This kit is free upon request. Write State Water Control Board, P. O. Box 11143, 4010 West Broad Street, Richmond, Virginia 23230

Vivian, Eugene V., Henderson, E. L., et al. "Environmental Education", Instructor, LXXX (January, 1971), pp. 52-61.
This article features a variety of activities of use for this unit.

Other sources of material on environmental problems include:

Environmental Science Services Administration
Department of Commerce
Rockville, Maryland 20852

National Center for Air Pollution Control
U.S. Public Health Service
Washington, D. C. 20201

U.S. Department of Interior
Federal Water Pollution Control Administration
633 Indiana Avenue, N.W.
Washington, D. C. 20242

National Council for Air and Stream Improvement
103 Park Avenue
New York, N. Y. 10026

E-5-150

The American Institute of Plant Engineers Industrial Pollution Committee
1056 Delta Avenue
Cincinnati, Ohio 45208

American Public Health Association
1704 Broadway
New York, N. Y. 10019

Air Pollution Control Association
4400 Fifth Avenue
Pittsburgh, Pa. 15213

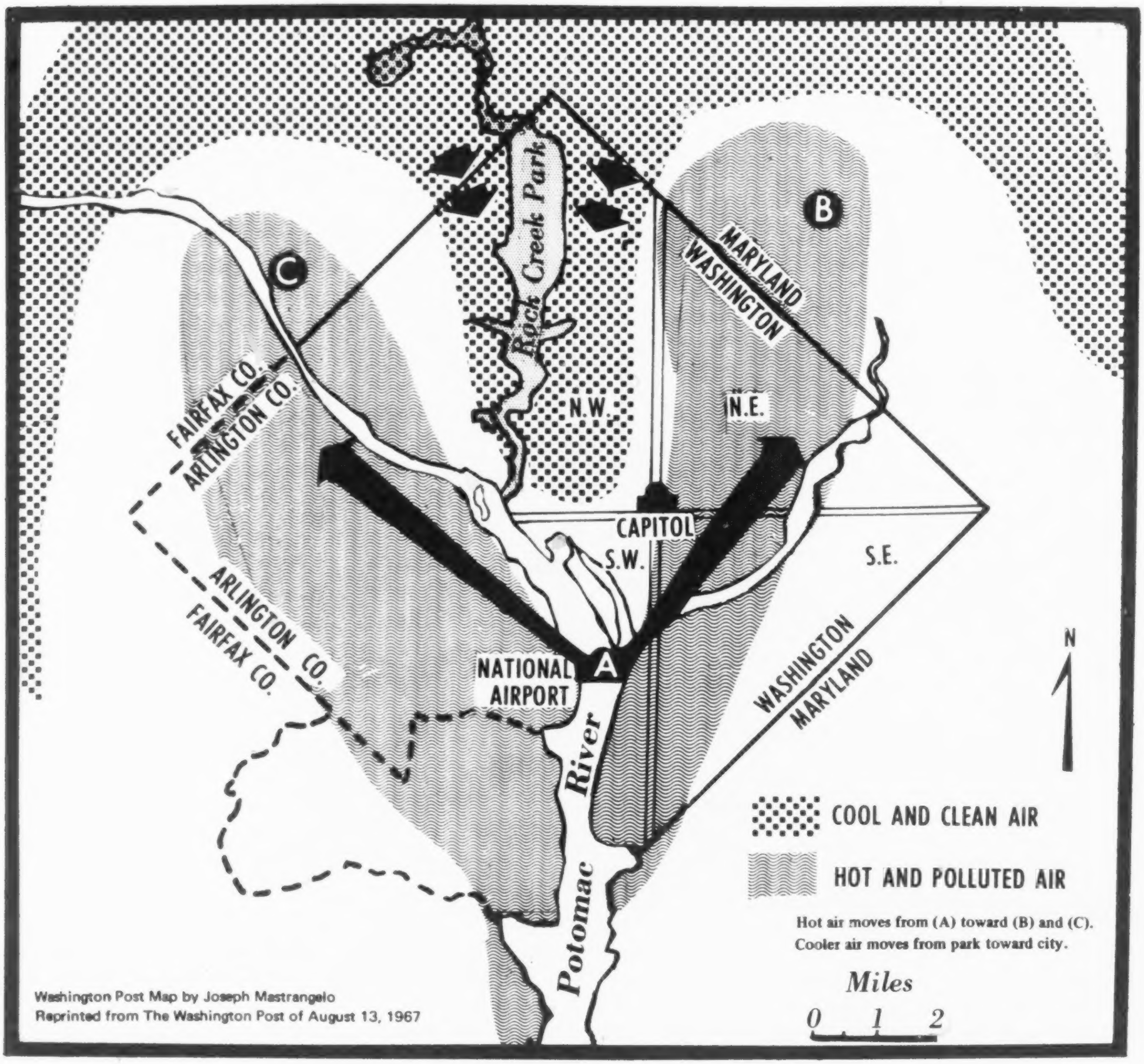
Citizens for Clean Air
Box One Million, Grand Central Station
New York, N. Y. 10017

The Conservation Foundation
1250 Connecticut Avenue N.W.
Washington, D. C. 20036

National Wildlife Federation
1412 16th Street N.W.
Washington, D. C. 20036

Tennessee Valley Authority
Director of Information
Knoxville, Tennessee 37902

Water Pollution Control Federation
3900 Wisconsin Avenue, N.W.
Washington, D. C. 20016


Rock Creek Park
B
C
MARYLAND
WASHINGTON
FAIRFAX CO.
ARLINGTON CO.
N.W.
N.E.
CAPITOL
S.W.
S.E.
ARLINGTON CO.
FAIRFAX CO.
NATIONAL AIRPORT
A
WASHINGTON
MARYLAND
N
River
Potomac
▩ COOL AND CLEAN AIR
▨ HOT AND POLLUTED AIR
Hot air moves from (A) toward (B) and (C).
Cooler air moves from park toward city.
Miles
0 1 2

Washington Post Map by Joseph Mastrangelo
Reprinted from The Washington Post of August 13, 1967

SUMMER "HEAT ISLAND" SENDS AIR POLLUTION INTO SUBURBS

Almost daily, the center of the hot air mass divides and flows into the suburbs, according to a U.S. Weather Bureau research specialist.

Clarence A. Woollum calls the mass the "urban heat island." In it are sulphur dioxide, carbon monoxide and other pollutants common to the city's atmosphere. Woollum has compiled data on the movement of the urban heat island for the past nine years.

Measurements taken last month show a typical daily movement of the polluted air.

Each July morning at 5 o'clock, the air mass centered over National Airport, where the minimum temperature averaged 68 degrees, the hottest in the city.

With temperatures rising through the morning, the island split and began its two-pronged march into the suburbs.

By 3 P.M. the island encompassed a large "vee" from Glen Echo to National Airport to College Park. At the same time, a sweeping wave of cooler, less polluted air poured into the city along the green strip of Rock Creek Park. The temperature of this air was about six degrees cooler than the air in the heat island.

According to Woollum, the movement of cool air aids in pushing the heat island away from the city.

Greater understanding of the movement of the urban heat island will aid in designing more effective air pollution control programs, Woollum believes.

(The Washington Post, 8/13/67)

The Washington Post NEWS MAP

E-6-152

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "A Stream is a Living Thing."

Descriptor: Opposing interests are involved when man seeks to develop a flood plain region for housing or industrial purposes. Ecologists liken an ecosystem to an immense ball of elastic twine. If a single thread is pulled the whole ball is affected. With this concept in mind and a realization of the needs and desires of urban man, how can this conflict of interests be resolved in a democratic society?

Discussion Leader: Carol Miller, Public Schools, Elkhart, Indiana.

* * * * *

"A Stream is a Living Thing."

Part I: Establish a background of workable knowledge on the ecosystem of a stream.

A. Use illustration 1-a to familiarize students with terms they will need in discussions of a stream (source, tributaries, mouth, watershed, ecosystem).

B. Take a field trip to the source and mouth of the Elkhart River. Use illustration 1-b to identify terms and concepts established in 1-a.

Part II. Define the problem of development and urbanization of the banks of a stream.

A. Use map 2-a, and topographical county maps that will show farm buildings to answer questions like the following:

Where are the banks of the stream used for commercial or residential purposes?

What is the flood plain region used for? Why could this create problems? Use illustration 2-c.

B. Use chart 2-b to compare the land value at the source and mouth of the stream. Give reasons for this difference.

Part III: Flood Plain residents want to be able to get building permits to remodel or build new homes. Present state and local zoning laws limit them.

A. Use news clipping headline to introduce the problem of residents seeking to build on a flood plain (3-a).

B. Use description 3-b to set up the role-playing situation to help students understand the feelings and concerns of the people involved in this issue.

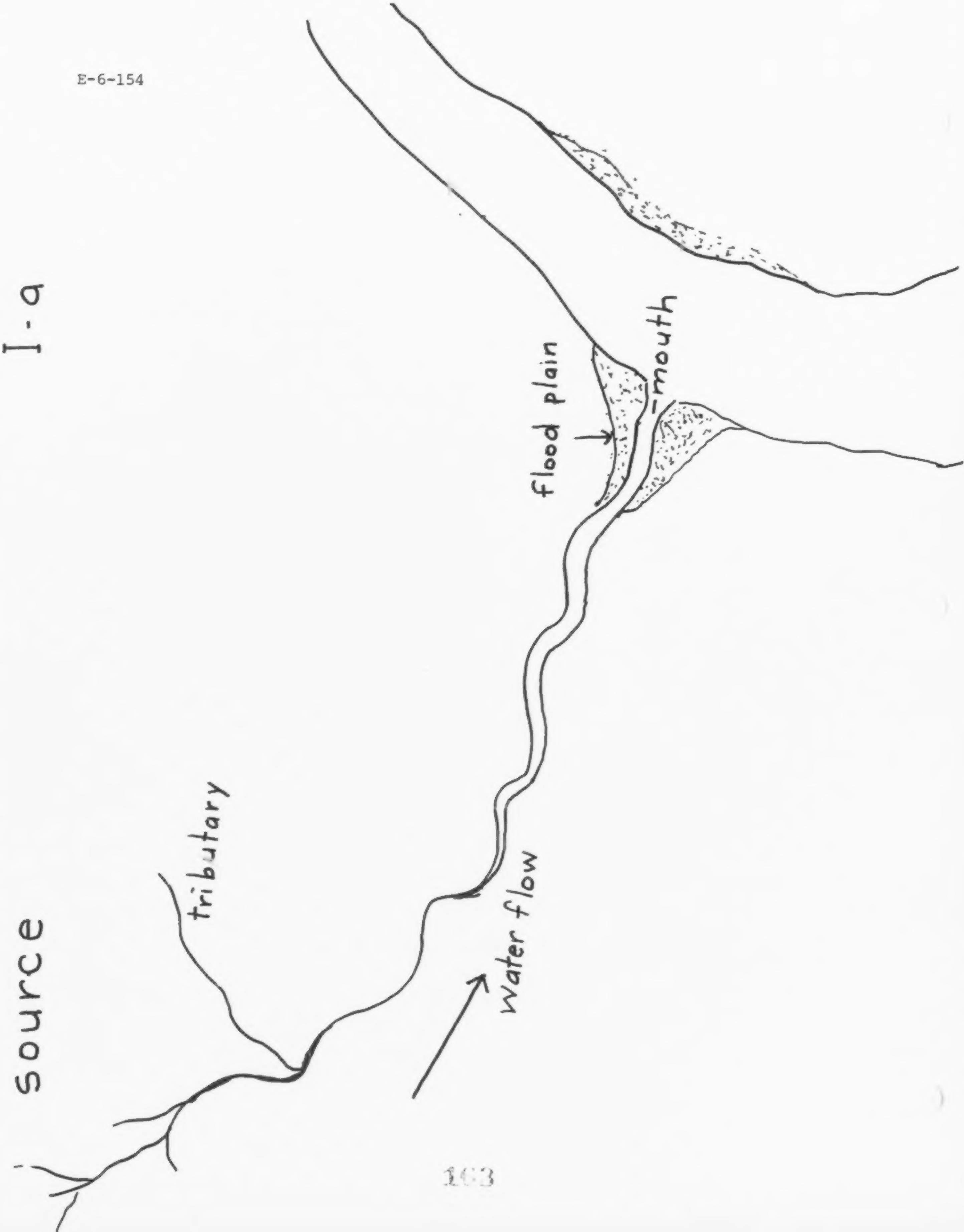
C. After an introductory role-playing session the students may collect further information, data and views from those involved in the issue. After interviews and calls to various people they can then replay the situation in 3-b with more facts and better understanding for the people involved.

Part IV: Culminating discussion: What will happen to the Hudson-Sterling Flood Plain?

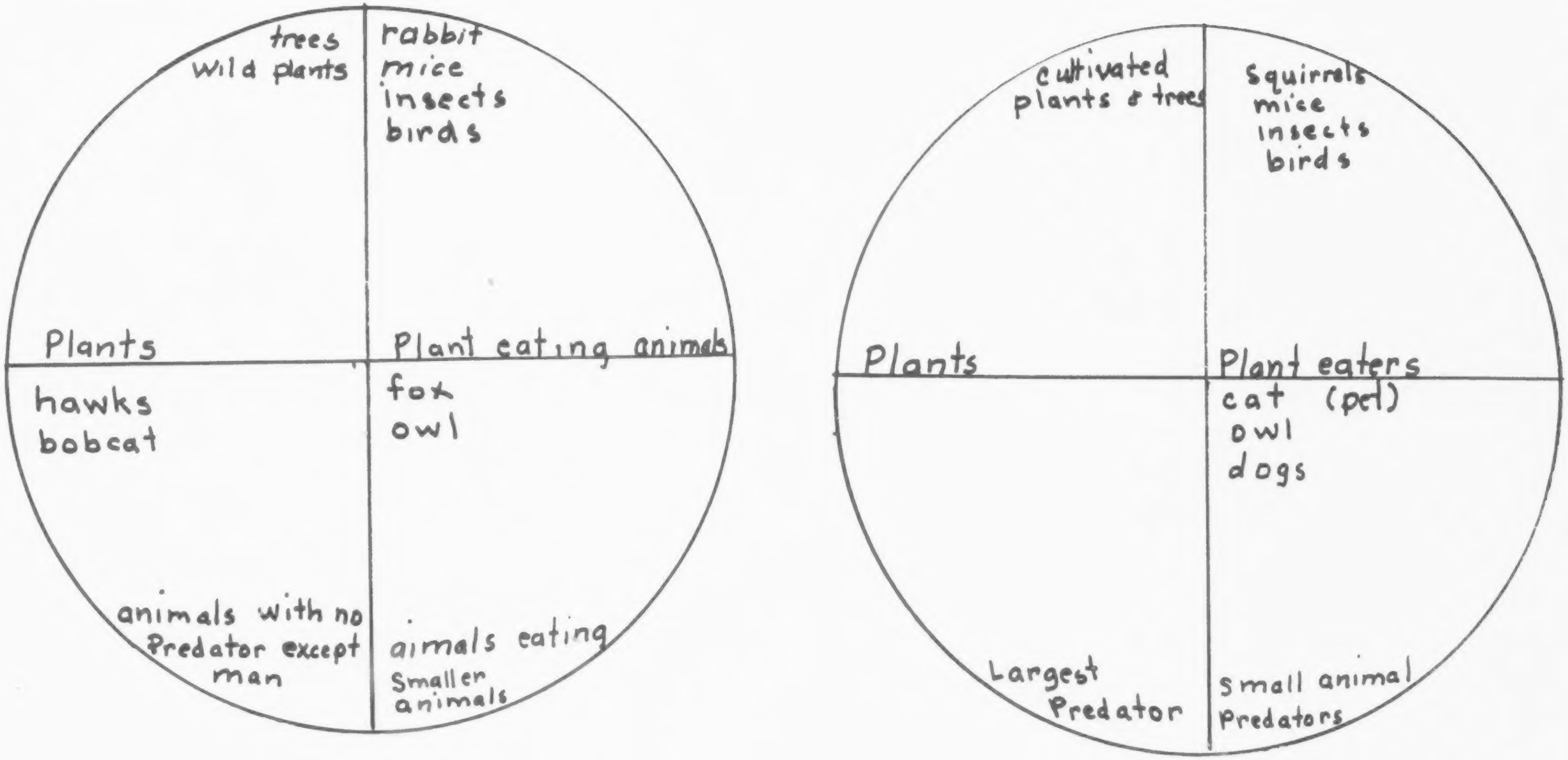
...What risks are involved in increased building?
...Should the zoning laws be changed to accomodate the residents and realtors?
...Who makes the final decision?
...How do you predict the conflict will be resolved?

E-6-154

I-a


Source
tributary
water flow
flood plain
mouth

I-a

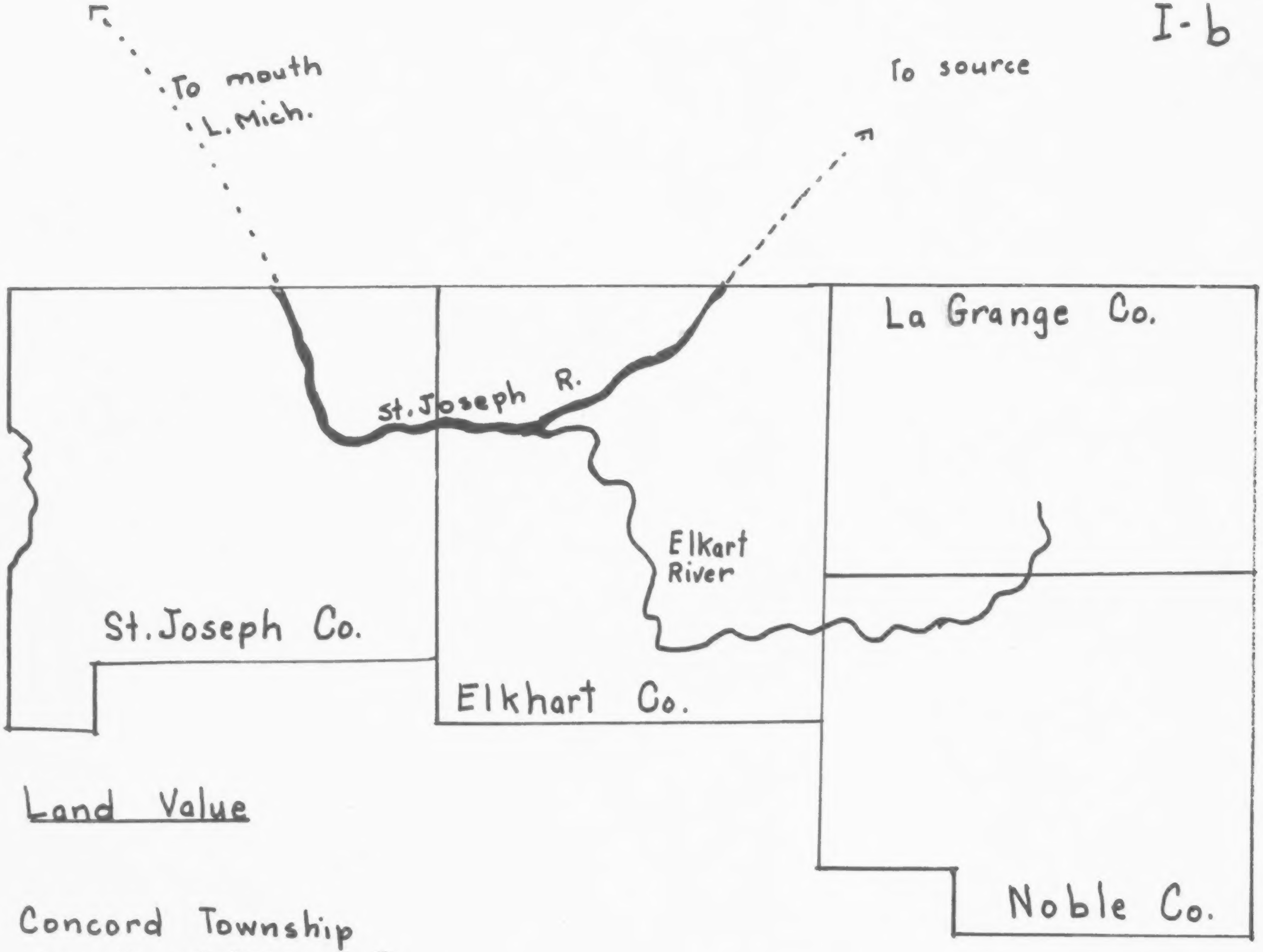

trees
Wild plants
rabbit
mice
insects
birds
Plants
Plant eating animals
hawks
bobcat
fox
owl
animals with no Predator except man
aimals eating Smaller animals
cultivated plants & trees
Squirrels
mice
insects
birds
Plants
Plant eaters
cat (pet)
owl
dogs
Largest Predator
Small animal Predators

Ecosystem -
at source of stream

at mouth of stream

E-6-155

I-b

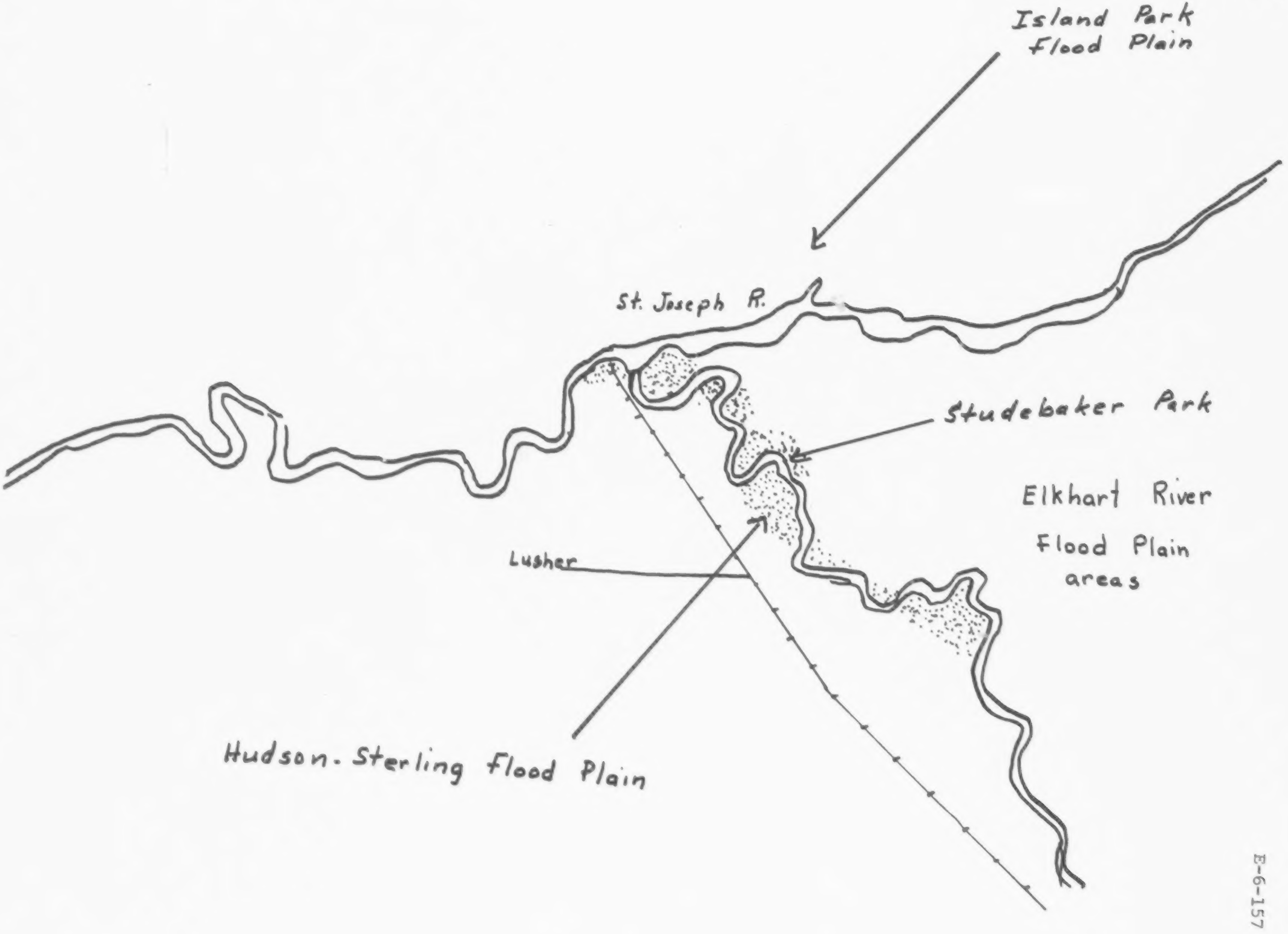

To mouth
L. Mich.
To source
St. Joseph R.
Elkart
River
St. Joseph Co.
Elkhart Co.
La Grange Co.
Noble Co.

II-b Land Value

Concord Township
mouth of Elkhart R.
165' by 115' . . . $2910

township
source 1 acre . . .

I.b. Flood Plain at mouth of Elkhart R.

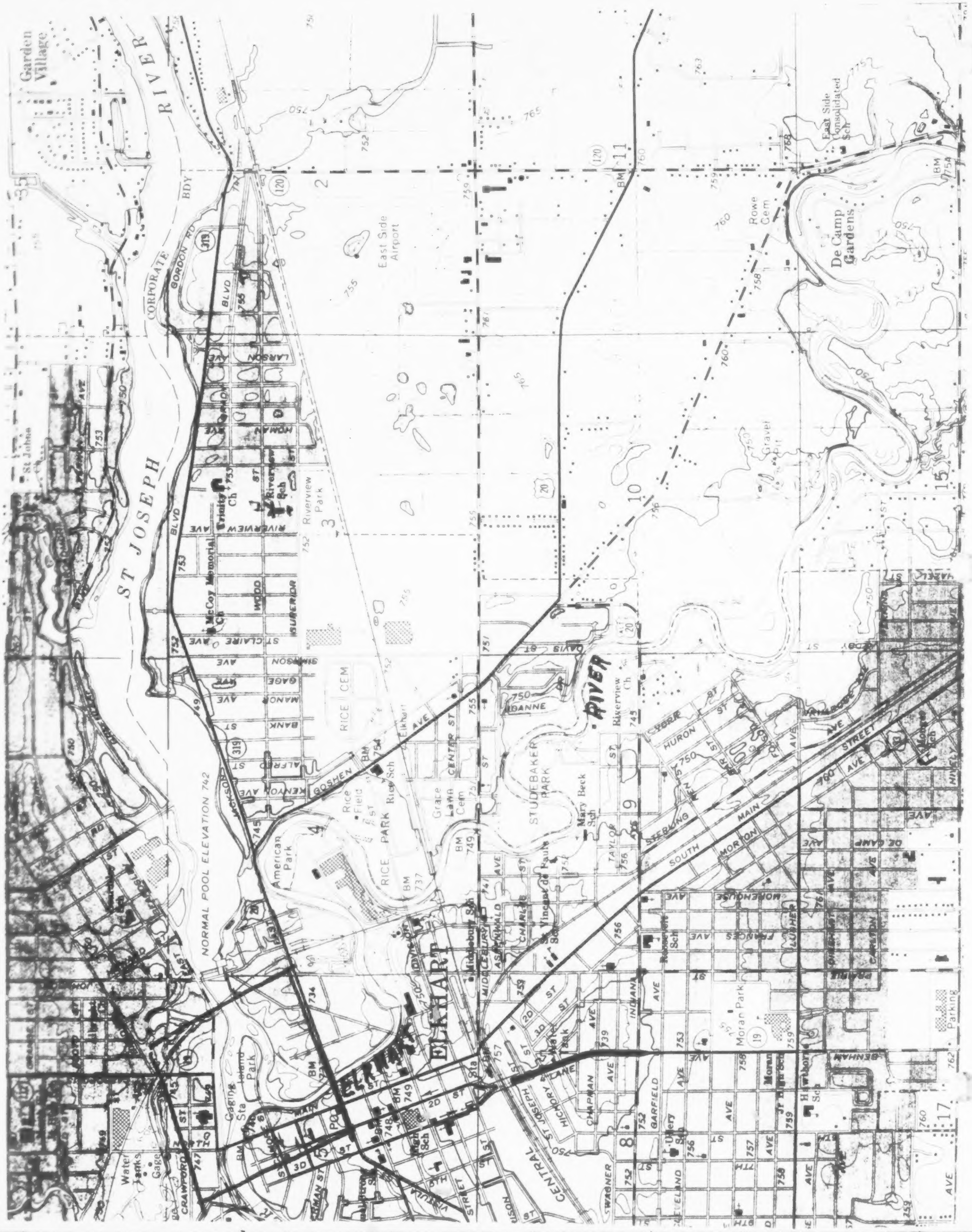

Island Park
Flood Plain
St. Joseph R.
Studebaker Park
Elkhart River
Flood Plain
areas
Lusher
Hudson-Sterling Flood Plain

E-6-157

II- 9

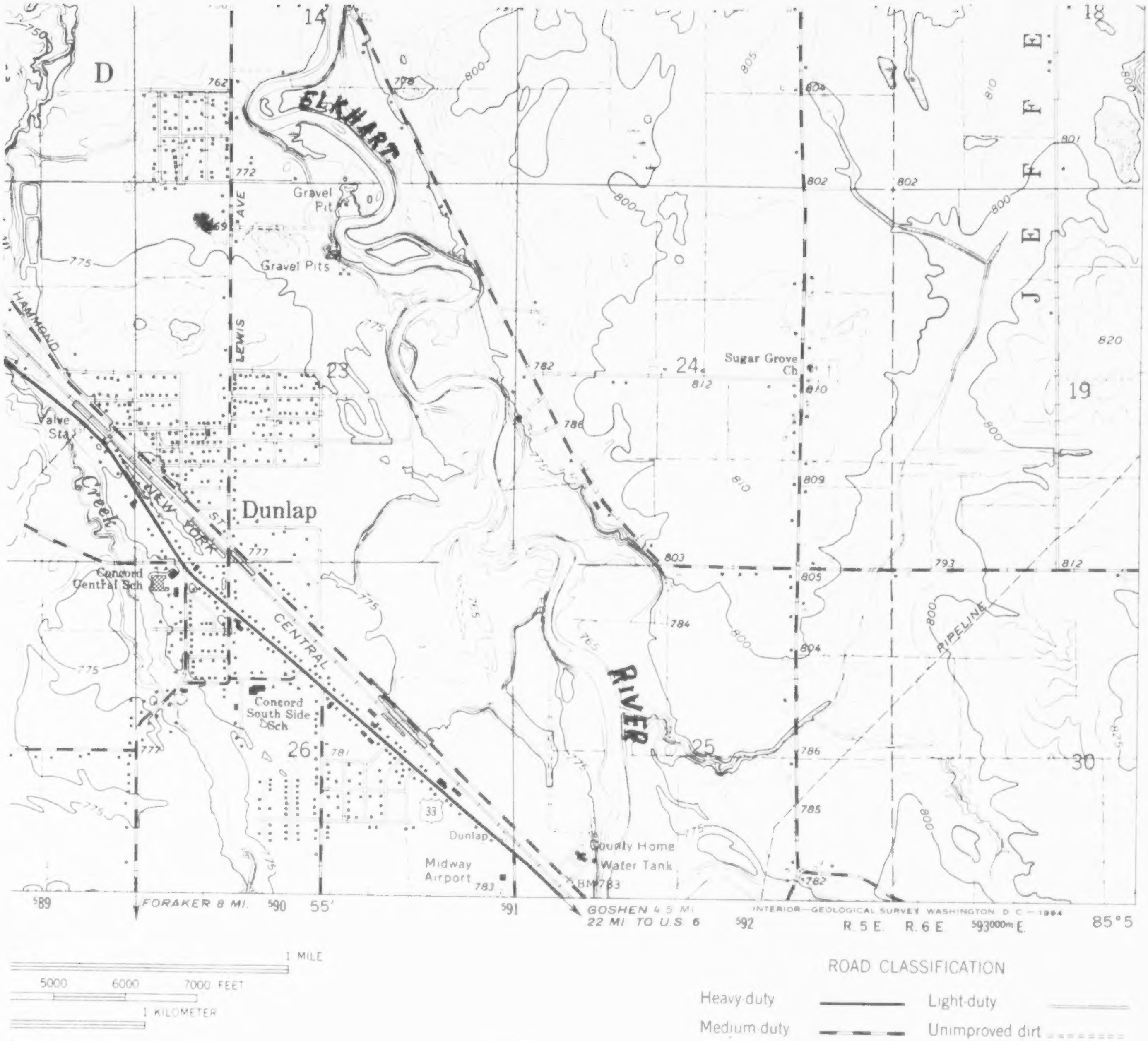
167

E-6-158


Garden Village
ST JOSEPH RIVER
CORPORATE BDY
GORDON RD
East Side Airport
De Camp Gardens
Rowe Cem
East Side Consolidated Sch
Gravel Pit
Riverview Park
Trinity Ch
Riverview Sch
McCoy Memorial Ch
RIVERVIEW AVE
ST CLAIRE AVE
RICE CEM
GOSHEN AVE
Rice Field
RICE PARK
Rice Sch
American Park
Grace Lawn Cem
STUDEBAKER PARK
Mary Beck Sch
Riverview Ch
RIVER
NORMAL POOL ELEVATION 742
ELKHART
Island Park
Gaging Sta
Water Tanks
Gage
St Johns
Moran Park
Parking
Roosevelt Sch
Hawthorne Sch
High Sch
MAIN ST
SOUTH MAIN ST
STERLING AVE
DE CAMP AVE
INDIANA AVE
CENTRAL
ST JOSEPH

II-a

E-6-159


D
14
18
762
772
ELKHART
Gravel Pit
Gravel Pits
LEWIS AVE
HAMMOND
775
800
805
804
802
801
810
820
J E F F E
23
24
Sugar Grove Ch
812
19
782
786
809
Valve Sta
Creek
NEW YORK
Dunlap
777
803
793
805
Concord Central Sch
CENTRAL
784
PIPELINE
RIVER
765
Concord South Side Sch
26
781
25
786
30
33
785
Dunlap
Midway Airport
783
County Home
Water Tank
BM 783
782
589
FORAKER 8 MI.
590
55′
591
GOSHEN 4.5 MI.
22 MI. TO U.S. 6
592
R.5 E.
R.6 E.
593000m E.
85°5
INTERIOR—GEOLOGICAL SURVEY WASHINGTON D.C.—1984
1 MILE
5000
6000
7000 FEET
1 KILOMETER
FET

ROAD CLASSIFICATION

Heavy-duty
Light-duty
Medium-duty
Unimproved dirt
Interstate Route
U.S. Route
State Rout

INDIANA
QUADRANGLE LOCATION

ELKHART, IND.

N4137.5—W8552.5/7.5

III-a

E-6-160

Flood Plain Residents Told Building Permits Possible

By DICK ROBINETT

Members of the Hudson-Sterling Assn. were told Tuesday night that there is hope for building permits being granted in their southeast side neighborhood despite the fact that part of it lies in the flood plain of the Elkhart River.

They also questioned both mayoral nominees on issues facing their area.

The flood plain zoning has caused problems for the neighborhood for years, the residents say. Under that zoning no significant additions to existing houses could be built and permits have not been granted for new houses at all.

The plain is established by noting the area covered in the highest recorded flood.

In the meeting at city hall, city planner Mitch Sever outlined the procedure that may ease the situation. Requests for additions to existing homes, such as room additions and garages, should be submitted to the state Department of Natural Resources, which sets the flood plain.

That group has indicated it will consider such applications, Sever said.

The next step will be to approach the City Plan Commission and council about changing the local zoning law to allow construction in the flood plain.

E-6-162

III-b

WE WANT TO BE ABLE TO GET BUILDING PERMITS

(Descriptions for role-playing dramatization)

Scene: Meeting room at City Hall. The Hudson-Sterling Citizens Association is meeting with members of the City Planning Commission, two candidates for mayor in the fall election, and a representative of the Advisory Council of Waters and Minerals (state).

The city planner, Mr. J. has called this meeting because the Citizens Association has asked for more action on their demands for changes in the zoning laws which affect their property. Members of the Planning Commission and the Plan Director are seated at a table in the front of the room. Members of the Citizen's Association, the mayoral candidates, the press and state advisory council representative are in the audience.

(Explain to each participant the role he is filling. See briefing on the following page.)

Action: Mr. J. calls the meeting to order and explains reason for meeting. He asks Mrs. K. to explain why zoning is limited in the area being discussed.

Mrs. K. explains the laws and regulations for the region in question.

Citizens Association Members asks questions.

Mr. J. explains a course of action which may help them get the regulations changed. Association members ask questions of him. They indicate their intention to follow his suggestions. Members question mayoral candidates on their position regarding the problem.

Candidates respond.

Mr. J. adjourns the meeting.

The newsmen take notes during the discussion and ask participants questions after the meeting if there was some point which needed clarifying. They may write the story of the meeting for reporting to the entire class.

BRIEFING FOR CHARACTERS IN ROLE PLAYING

Mr. J. He is hired by the mayor to manage city planning. He has called the meeting and is the chairman. He states the reason for the meeting: "The Hudson-Sterling Association is seeking more liberal zoning laws for building in their neighborhood. Under present regulations a good part of this area has been designated a flood plain and as such building in the area is restricted." He asks Mrs. K. to clarify the laws and regulations which are involved. He keeps order during the meeting and calls on the participants as they ask to speak. He adjourns the meeting.

Mrs. K: Is a member of the State Advisory Council on Water and Minerals. She is active in conservation efforts in the state. She is not financially affected by the decision about zoning as the home owners and realtors are. She is appointed to office and does not have the pressure of being elected directly by the people. She represents the state and the people not directly involved in the issue. She tells the meeting that flood plain areas are established by recording the highest level water reached during a flood. Records in this area only go back to 1908. Flood control methods, such as the building of dams and reservoirs may change the designation of flood plain areas.

Citizens Association: No. 1. Members have existing homes but want to remodel or build additions.
No. 2. Single landowner who wants to build a home for his own use on property he owns.
No. 3. A man or company may buy land for building houses for resale. A developer.

Members of the City Planning Commission: At meeting in an unofficial capacity to learn of the problems and feelings of the citizens.

Mayoral candidates: Mr. D. and Mr. R. both running for the office of mayor in the fall election. Want to please the people who they would like to have vote for them. But must be careful not to make promises they could not fulfill if elected.

E-6-165

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "No Place to Play: Valuing Dilemmas in the Choice of Recreational Sites."

Descriptor: As the population continues to expand, the location of recreational areas for the public has taken on increasing importance. How can children be made aware that every public recreational decision involves a value choice, often to the detriment of the minority's rights. How can children be led to analyze the adequacy, equity and efficiency of public decisions and the value priorities reflected in them? What does a teacher do to sensitize youngsters to the interplay of political, social, economic, spatial, and even historical factors involved in public recreational decisions? Case studies and problem exercises are used, along with role-playing activities, to involve students in these questions. Sample solutions are reported.

Discussion Leaders: Dr. Peter H. Martorella, Social Science Education, Temple University, Philadelphia, Pa.

Dr. Jack Madden, Lower Merion School District, Ardmore, Pa.

* * * * *

No Place To Play.

In addition to the case study and teacher-related materials provided in this section, the following items will be used in the session: transparencies, tape recordings, sample student-generated solutions, and local area statistical data.

Case Study

The Problem Exercise (To be given to the students)

Urbo is a city that has doubled in population in recent years. The fine parks, playgrounds and public recreational areas that were once the pride of all its citizens, no longer can hold all of the people who wish to use them. And all ages of people now have more free time than ever for recreation. The residents all over the city are complaining that there are not enough open public areas for sports, play, picnicking, or other recreational activities, and they wish to take some action. Everyone agrees that more public recreational areas are needed, but no one is sure where they should be located or what kinds of materials and activities they should have.

Urbo covers a region of approximately 150 square miles, and, like most cities, is made up of a variety of different types of people with different recreational needs. In general, however, you may consider most of the people in Urbo as living in four different areas of the city, and as having the characteristics listed below.

NORTHSIDERS

Resident Income:	Very high, well above average
Property Costs:	Very high
Industries:	None
Stores:	Few
Major Traffic Arteries:	Very few
People Per Square Mile:	Very few
Type of Inhabitants:	Mostly families with children; very few single adults

SOUTHSIDERS

Resident Income:	Average
Property Costs:	Average
Industries:	None
Stores:	Few
Major Traffic Arteries:	Very few
People Per Square Mile:	Few
Type of Inhabitants:	Mostly older families whose children have already left home; only a few single adults

EASTSIDERS

Resident Income:	Less than average
Property Costs:	Low
Industries:	Many
Stores:	Many
Major Traffic Arteries:	Many
People Per Square Mile:	Very many
Type of Inhabitants:	Mostly families with children; also many single adults.

WESTSIDERS

Resident Income:	Average
Property Costs:	Average
Industries:	Few
Stores:	Many
Major Traffic Arteries:	Average number
People Per Square Mile:	Average number
Type of Inhabitants:	Mostly middle-aged families with few children left at home; only a few single adults

Your task. You are to make recommendations for additional public recreational plans with sites, materials and activities to serve all of the people from the four areas of Urbo. Any recommendations that you make must be approved in an election by a majority of all of the voters of Urbo. It is important to remember that there are no more open spaces in Urbo, so that any new recreational areas that you recommend will require the removal of some citizens' homes or stores. (Inclusion of this last sentence is optional.)

Procedures (For the teacher)

The information provided may be modified to alter the variables, thus generating a more or less difficult problem exercise. Data might be added, for example, on the scope and extent of existing recreational facilities, racial concentrations, security, and the like. The planning task may be handled by the class as a whole or in groups, representing the various areas of Urbo. The teacher may wish to choose a mayor and a city council with representative from the four areas to screen all proposals. In any event, some provision must be made to give proportional voting power to areas on the basis of implied population size.

In graphically illustrating Urbo, a very basic drawing may be used (see transparency) particularly with a young or inexperienced class. On the other hand, the use of scale, traffic artery configurations, and the like may be encouraged with certain groups.

Subsequent discussions of the exercise and its relationship to reality should underscore the fact that the election consensus does not necessarily certify that a prudent and equitable planning recommendation has been made. Analysis of alternative solutions proposed and their potential consequences, along with the valuing dimensions reflected in students' rationale, should receive the most emphasis in the exercise and subsequent discussions. The political expression of the majority's will, as reflected in an election, may be viewed as just one type of variable to be considered in planning concerns.

Follow-Up Activities (For the teacher)

Once students have been involved in planning where variables have been controlled, students may be given recreational concerns in their own community. Field experiences could be used to better acquaint students with existing facilities and with the feasibility of proposed solutions. Also, community and student attitudes on recreational issues could be sampled through simple interview-questionnaire techniques.

Using a map of their local area as a starting point, the students might be asked to deal with questions similar to the following ones.

Where are the public recreational facilities in our community located?

Are these facilities easy for all groups within the community to get to? If not, who suffers the most? Why do you suppose the facilities have been located where they are?

Ideally, what should recreational facilities in our community be like, and where should they be located?

Who would be affected and in what ways by the recommendations that we have made? What groups might support and what groups might oppose our recommendations and why?

What do our recreational recommendations and the existing recreational conditions in our community tell us about what we think is important and what we are willing to sacrifice for it?

Statement on Use of Materials

In assisting students to identify accurately recreational concerns from a geographic perspective and to analyze related valuing concerns, the teacher may wish to follow this sequence of general procedures.

1. Ask the class to illustrate with a basic graphic sketch the characteristics of Urbo from the basic information given. Once the class reaches some consensus on which single sketch best represents the region, it should be used as the common reference point for the class.

2. Have the class determine what sort of recreational facilities should be provided, along with their rationale.

3. Have the class determine where the recreational facilities should be located with some rationale (include alternative locations).

4. Ask the class to hypothesize what changes or consequences are likely to occur, or who will be affected the most and in what ways, if the recommendations offered are translated to action.

5. Provide the class with some decision-making mechanism to resolve conflicting views.

6. Discuss the exercise and its applicability to reality.

7. Replicate the exercise using data and problems from the local community.

One form of decision-making is for each group, representing the four areas of Urbo, to offer competing recommendations and rationale, and to answer questions. After discussion and generation of any compromise recommendations, all the class could vote on proposals with majority approval required for adoptions.

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "'Moscow, Blueprint For a City' - 'The only really planned city in the world!'"

Descriptor: Part A - Affords the group a very brief background to the approach used in this sample urban unit. The S.E.S. series suggests how we can conceptualize the learning experience, individualize activities in order to recognize student interests and abilities, and to identify the interdisciplinary nature of geographic education.

Part B - One of the most important new developments, in all societies, is the movement into urban areas. Cities and urban studies are becoming of very great interest to youngsters. The city is a special kind of region. Hopefully, the pupils will learn to apply the regional method to a study of Moscow and, more importantly, develop an understanding of their own local urban environment.

Several activities and inquiries are included so that the pupil will begin to understand the urban region.

Discussion Leader: Mr. Ben Vass, Coordinator of Geography, North York Board of Education, Toronto, Canada.

* * * * *

Moscow, Blueprint For a City.

Guide To The Teacher:

The Social and Environmental Studies series is designed for a program of geographic education extending each year from grade 1 to grade 13.

The conceptual frameworks of understanding are used as a type of common denominator which provides a continuum of learning throughout the pupil's entire school experience. The numerator of the learning equation can very with the content, pupil interest, local area, teacher background or any other variables. The conceptual schemes program, however, provides a clear set of behavioral objectives which develop and mature as the student looks more analytically at man, his environment, and the societal matrix in which he lives.

There is no core program in the Social and Environmental Studies outline which must be taught at any given grade. It is assumed that the teacher will relate the new unit to the level of experience of the individual child and that this fundamental relationship must be achieved before any learning can take place.

In this program we are recommending that the pupil learn the conceptual frameworks of understanding, rather than any specific content, in order to utilize them in new situations and new experiences. These concepts will enable him to relate information globally, communicate graphically, to better understand the peoples of the world, interpret and apply new information to pattern development, appreciate the interdependence of man, intelligently make decisions about resource allocations for the future, develop a set of cultural values, become aware of international relationships and better understand the forces of change which are shaping the world of the Year 2000.

If these indeed are our learning objectives in the field of Social Studies, we must develop learning units which will advance the pupil, step by step, toward these goals.

SOCIAL AND ENVIRONMENTAL STUDIES

The Regions of Man - Part 1

UNIT 2. MOSCOW, BLUEPRINT FOR A CITY

TABLE OF CONTENTS

1. Unit Profile
2. Introduction
3. Investigation I - Moscow, Blueprint for a City
4. " II - Historic Decision
5. " III - The Moscow Region
6. " IV - Living in Moscow Today
" V - Planning for the Future

Introduction to the Urban Environment

The purpose of this unit is to explore the concepts that deal with the complex urban region. Moscow has been selected since it is particularly noted for its urban planning and land use control. The major questions investigated in this unit include the following:

1. The future of our cities in the Year 2000.
2. How can we prevent the urban sprawl of major cities into huge concrete connurbations?
3. An examination of the morphology of a large city.
4. How do people relate to the urban environment and how does it relate to their everyday lives?

"Moscow, Blueprint for a City", is basically designed as a teacher-oriented unit with supportive audio-visual materials.

The unit is divided into five investigations. Each of these sections develops a succeeding stage of understanding from the general idea to the particular. Once again the pupil is asked to relate this understanding to his own environment.

In each of the investigations the pupils are given the opportunity to solve problems and develop their inquiry skills. A variety of activities such as optional readings, photographic interpretation, simulation games, and descriptive analysis are included in the unit.

Investigation I focuses on the concept of the region. It provides realistic understanding of the different types of regions and the urban region in particular.

Investigation II involves a study of the factors which combine to create a major urban centre. These factors include both physical and human considerations. Why is it that some places have grown to fantastic populations and others have not?

Investigation III is a particular look at the Moscow region. Here we see a sample study of one of the world's largest cities. How is it similar to our own area? How does it contrast with our area?

Investigation IV is concerned with the way of life in Moscow today. It begins to look at the human reaction to the environment and to the political system which prevails. How does the life style of the average Muscovite compare with our own?

Investigation V presents students with a value problem. What type of city would we want to live in, if we could design it for the future? How can we benefit from the study of some of the other cities which make up our global village?

In answering questions like these, the pupil begins to see some of the problems and prospects which relate to his own area. He ought to better understand the problems of the city and the need for participation in the planning process.

ACTIVITY 1 - WHAT IS A REGION?

This investigation is an introduction to the basic idea of regionalism. It should help pupils to understand how environmental data can be organized into regional patterns. These patterns will then enable the pupil to examine the complex world community in a more intelligent manner.

1. Review the ideas given for the fifth conceptual framework in the introduction.

2. You may wish to have the pupils play a game on the blackboard to reinforce the simple pattern idea. Pupils can draw their own X's and O's patterns and the other children can try to recognize the figures drawn.

ACTIVITY 2

In this exercise the pupils are asked to mark their homes on a map of the community. If possible obtain a large scale map from the municipal assessment office. These will provide an outline showing every lot in the community.

1. If this is not possible, draw a simple map of the school area with the main streets shown. Assist pupils to locate their home areas.

2. The results of this activity may be very interesting to you since they very often indicate sociological relationships among the students. Occasionally, you will discover a situation whereby a pupil who lives in an isolated location from the rest of the class, may be reluctant to work well in class groups.

ACTIVITY 3

The region quiz map is a simple problem study which will further clarify the concept of regionalism to the students. It is contained in the audio-visual kit which provides a copy of the picture quiz for each student. You may wish to collect the sheets, after the pupils have completed the exercise, for future use.

1. Try to relate the idea of the different kinds of regions to the experience of the children involved. Quite often their holiday travel experience will relate to different areas and they may be encouraged to incorporate this environmental experience into the class discussion of the kinds of regions.

2. Since this is a teacher-oriented unit, it is hoped that you might be able to share some of your travel experiences with the children. Slides of different places and ways of life will help the pupils become more aware of the regional concept.

3. Parts of the City Region

   Encourage the pupils to fully discuss this idea. Many of the students do not have a basic understanding of where they live in relationship to their urban region. Hopefully, they will become more analytical of and interested in their immediate environment.

ACTIVITY 4

This investigation is designed to provide the pupils with a concrete basis for understanding their environment, and the application of regionalism to the world's cities.

1. You may wish to include a field trip of your immediate city region with this activity. It would provide the pupils with the experience necessary to really understand their urban environment. Be sure to take photographs and notes of each of the three sections.

2. The pupils may like to build a bulletin board display which shows the three main urban areas.

3. Always restrict the scope of your field activity to two or three specific sample areas. Do not attempt to cover the whole city.

ACTIVITY 6 - THE CITY QUIZ

Do not be too surprised if the pupils cannot identify the cities! The purpose of the activity is to illustrate to the pupils the fact that urban areas are becoming larger, more alike and that they share the same problems.

1. You may wish to have the pupils participate in teams in order to discuss their observations of the city photographs and the questions on them.

2. The class as a whole should discuss the various answers and students should be encouraged to defend their solutions.

INVESTIGATION 2 - HISTORIC DECISION

The human factor has always been very important in the development of cities. This investigation provides activities which will help the pupils to understand the role that man has played in the evolving urban environment.

Historical decisions have been responsible for the establishment of many communities. Whether they grew to become major cities or disappeared as ghost towns depended on a complex pattern of unrelated decisions and circumstances.

ACTIVITY 8 - HISTORIC DECISIONS

Note that this activity is a prerequisite for the simulation game in Activity 9. All of the pupils should listen to the record or a tape made from the record.

1. The ideas presented should be selected and interpreted by the students. One method is to prepare cards which outline some of the key factors.

2. The pupils should begin to realize the different types of information which they are selecting. Interdisciplinary ideas such as political reasons, economic factors, etc., should be discussed with the class.

ACTIVITY 9 - SIMULATION GAME

The main factor to keep in mind, for a role-playing simulation game is the idea that the pupils must do their own thing. Allow them to speak freely and interpret the clues as they understand them.

It becomes a useful exercise for the teacher, to carefully observe the level of understanding, depth of perception, and the ability of each child on a continuing basis.

1. Rearrange the seats in the classroom to resemble a courtroom for the public meeting.

2. The lawyer teams may wish to have a planning session. These can be held in the hallway if seminar rooms are not available.

ACTIVITY 13 - THE MOSCOW REGION

This photograph interpretation study is designed to provide a sample method of investigating the local home area of the pupil. The Moscow photographs are a specific sample of the urban centre of a major city.

The comparison with the pupil's home town will help to focus his ideas and interpretation of his own environment.

Activity 15 provides another item which can be used as part of the continuing evaluation of the individual pupil's progress.

ACTIVITY 14 - URBAN STUDIES EXERCISE

1. It may be useful to have pupils begin this newspaper photo collection at the beginning of the unit.

2. Have the pupils relate other photographs of their area with those contained in the entire unit. The similarities and differences will depend largely on your own location! Have the pupils discuss this idea.

3. Discussion, evaluation and interpretation are a major part of this activity. Be sure that the students have thought thoroughly about the ideas and clues suggested by the photographs.

INVESTIGATION 4 - LIVING IN MOSCOW TODAY

This investigation provides an excellent opportunity to introduce the whole idea of propaganda. Do the children believe everything they read? How do you determine what is the average and what is the exception? Do we have problems of propaganda in Canada?

Also included in this investigation is the human dimension, of the way of life in Moscow. Cities are not composed of merely buildings, roads, and parks, they are concerned mainly with people.

The familiar items and comparisons in this section should help the Canadian pupil to better understand the viewpoint of the Soviet citizen.

ACTIVITY 16 - MOSCOW TODAY

1. The interview-type information contained in this activity

provides the basis for seminar discussions. Divide the class into groups of 5-6 pupils. Each group will examine the 23 topics and decide on their comments or reports to the class.

2. This is an unstructured activity and the pupils, themselves, must decide on the significance of the ideas presented.

3. Be sure that the seminar or discussion groups make use of the photographs in this entire unit.

INVESTIGATION 5 - PLANNING FOR THE FUTURE

The concept of urban planning is as ancient as the first cities. However, the modern, complex, industrial society has created a chaotic, polluted, crowded megalopolis. Somewhere between the Roman design, and the present congestion, the effectiveness of urban planning has been neutralized.

Planning must be an exercise in participatory democracy!

The public, somehow, must become familiar with the basic needs of a community.

Hopefully, this investigation will begin to kindle a spark of interest in the young student mind, so that he will begin to observe and to learn.

His local environment is his laboratory and the future of our cities is his responsibility.

ACTIVITY 21 - DISCOVERING YOUR PLAN

This activity attempts to maximize the use of the pupil's own local environment. Hopefully, the ideas of urban studies which the child sees for himself will be more meaningful than merely talking about urban planning in the abstract.

It is important that each pupil think about his home environment, so that he will see and understand what he looks at every day.

1. At this grade level there is no attempt to introduce the proper terms for land classification. It is sufficient that the pupil recognize the six simple categories suggested.

2. The game of "monopoly" may be introduced to suggest the idea of land use, ownership and the economic factors of land values, etc.

ACTIVITY 24 - BLUEPRINT FOR A CITY

This is an activity which will summarize and apply the concepts introduced in this unit.

1. In many cases, it is helpful for the teacher, to assist the class

as a whole to construct a basic pattern of their present community. With this common core the groups can then eliminate the things which they do not like in their community and make their own suggestions regarding a futuristic design.

2. It is important that the pupils have an opportunity to exercise their imagination and creative thinking.

3. Be sure that all of the necessary services are included in the plans so that it can be regarded realistically, even though the economics may be currently impractical.

4. Have each group prepare a brief oral presentation to explain the features of their design.

E-6-177

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "Who Should Have the Neighborhood?" Children's Ideas About the Future Development of an Aging Neighborhood.

Descriptor: Given data on the present status of a neighborhood area close to the CBD of Houston, participants can make predictions and express feelings regarding the nature and quality of future developments in the area. Participants then can compare their ideas with those made by intermediate level children who participated in a similar activity. Discussion also will be given to the children's proposed actions for controlling changes.

Discussion Leaders: Dr. John E. Bishop, Dr. Jack M. Sheridan,
College of Education, University of Houston.

* * * * *

BACKGROUND AND USE OF MATERIALS: "WHO SHOULD HAVE THE NEIGHBORHOOD?"

The maps and pictures are of an older neighborhood area close to the CBD of Houston. Recently many homes and apartments have been sold or leased for use as day care centers, antique shops, insurance offices, eating establishments, and a variety of individually owned special service shops. The change has paralleled Houston's rapid growth, which in turn has resulted in a need for more services of the type seen on Map B. Many citizens feel the area is deteriorating and have begun to organize for its preservation as a residential area.

Children first can view pictures and maps to determine what is happening to the neighborhood area (trend toward commercial). Judging from the present trend, they can predict the specific use of some former residences now standing empty. (See Map B) A reasonable prediction is the conversion of the homes to specialty service use. The children then can react to the statements made by the residents and determine who should have the neighborhood (business, residence or both?). Their final activity may be the statement of proposals to ensure environmental quality for the area.

E-6-178

TYPICAL STATEMENTS MADE BY RESIDENT OWNERS IN THE CHANGING NEIGHBORHOOD

Resident A

"I see the present changes as a part of an expanded inner city. We were once considered a suburb and now we're part of the inner city."

"The practical end is a commercial area. Of course, if it were in the bounds of practical possibility, I'd like to see it stay as a complete neighborhood with residences. But it isn't in the cards. We're too closely a part of the inner city. Change like this happens in every city, and I can't see us here as an exception to the general rule."

Resident B

"The disturbing thing about this neighborhood is that it's dangerous to step out at night alone. That's the greatest change touching my life."

"I'll never forget how I felt the first time I saw the square metal building going up. (See photo of Alabama Garage.) That spot would have made a wonderful apartment site, which is how we wanted to see Alabama Street change. We were equally disturbed with a restaurant right behind us. We knew Alabama Street would change, but we hoped for apartment houses rather than businesses."

"I'd like to see more families with children buy into this neighborhood. I'd like to see it remain residential."

Resident C

"We're extremely unhappy about what is happening in our block and in surrounding blocks! Real estate men buy up property with an eye to the future. Then they rent to anyone and neglect the property. This is not right to us! It doesn't make for pleasant living conditions."

"I know one family that didn't want to sell. They had a very nice home, but the place next door became a 'dump'. They finally sold out of desperation."

"We want to stay here the rest of our lives. This is home! We like it here. We like being near downtown, the library, the art museum, and the bus line."

Resident D

"The restaurant on Alabama Street (see photo) shouldn't be in this area. They've never given us too much trouble, but this neighborhood is a place for homes. Instead of the restaurant, we would have much preferred an antique shop."

"I'd rather have high rises and clinics than booze joints, restaurants, and stuff like that."

"I don't know how we can keep it residential. We missed the boat years ago when we didn't begin to take measures to keep 'undesirables' out."

Resident E

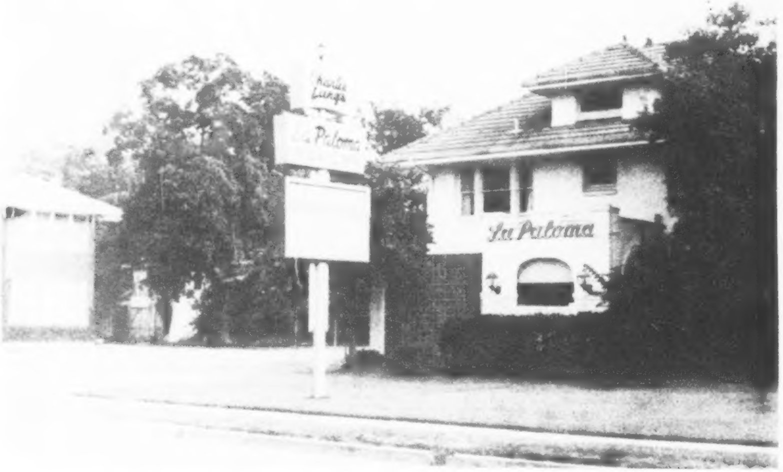
"Perhaps it might be better to let the whole area go commercial. The cost of modernizing all these older residences will be too great. It would be hard to get people to cooperate in a uniform, rebuilding venture."

Resident F

"I believe city governments should make efforts to preserve areas like this one as residential neighborhoods. Tighter deed restrictions or strict zoning should be implemented. I hate to see this neighborhood become a hodgepodge of resident-businesses, rooming houses, and mini-theaters, which is what it will become if some controls aren't established."

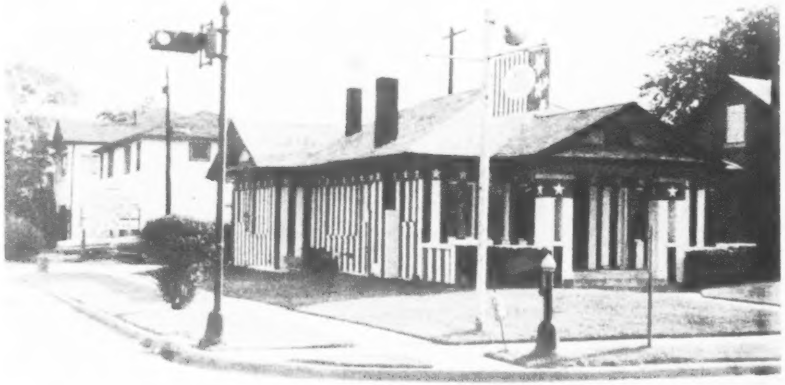
This auto repair garage replaced a large home.

What will happen to this home? Will it become a business? Should it remain a residence?



A former residence turned into a restaurant. A home was demolished so there would be parking space.

A typical home in the changing neighborhood.



This home became a privately owned specialty clothing store.

E-6-181

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "Why Can't I Play Here? The Classroom: A World in Miniature."

Descriptor: Classrooms are space-activity organizers. How valid are student perceptions of space allocations? How useful is the classroom for examining real-world, locational allocations? Do we live in a world of learned order? Comparison of student planned classroom arrangements and real world patterns provides some answers for these questions. Moreover, students will know why they can't play here--obviously no guarantee they will not choose to do so anyway.

Discussion Leader: Dr. Burton O. Witthuhn, Department of Geography, Edinboro State College, Edinboro, Pennsylvania.

* * * * *

"Why Can't I Play Here? The Classroom: A World in Miniature"

The classroom is a space-activity organizer. There are places to sit, to play, to read, to work on projects, to keep pets, to place rubbish, to walk, to hang clothing and to store books and things. By examining the allocation of classroom space, especially when allocated under student direction, one soon discovers that spatial preferences are fixed much earlier than is commonly realized. The similarity of locational choices prescribed by children and patterns existing in the real world are highly correlated.

The role of the teacher as the administrator of power and justice is not without its spatial implications. Should the teacher's desk be placed on the edge of the room or in the center? If preference is given to an area for playing rather than for studying, what effects will that have upon discipline and order? If desks are separated and bolted to the floor, where is the logical playground? How does playing in the aisles parallel playing in the streets of an inner city area? Will inner-city children order their classroom to match the world they live in? How will the urban child order this space differently from the rural child--if at all?

Classroom arrangements provide a convenient way for introducing students to zoning (spatial segregation), planned congestion and overcrowding, resource limitations, environmental quality, traffic flows, and similar concerns. Charts and maps summarize the realities of man-imposed order making abstractions into concrete examples. (It is expected that the teacher will convert the reproduced materials into transparencies for classroom use.)

Why can't I play here--because you are standing in the middle of the reading area, that's why.

VOCABULARY FOR SPATIAL ALLOCATION ACTIVITY

CLASSROOM
STUDENT DESK
TEACHER DESK
STORAGE
AISLE
READING AREA
PLAY AREA
PET AREA
WORK AREA
DISPOSAL AREA
LIBRARY
NATURE DISPLAY
ROCK DISPLAY

CITY
RESIDENTIAL BLOCK
STORIES
CITY HALL
ZOO
SUBURB HOUSING
STREET
HIGHWAY
PLAYGROUND
PARK
DUMP
GASOLINE STATION
MUSEUM

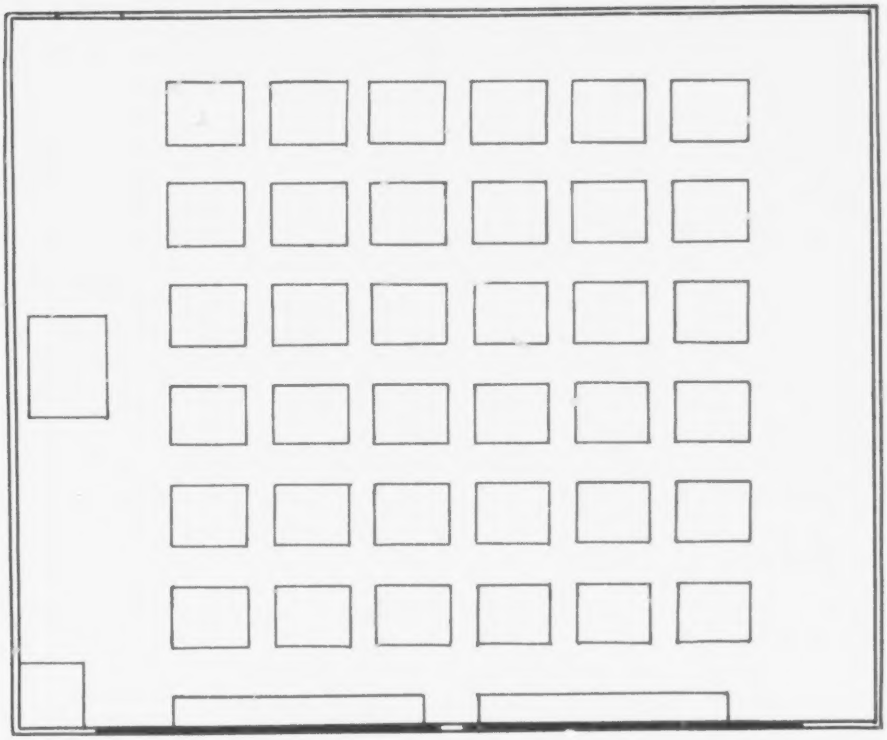


FIGURE I CLASSROOM WORLD - CASE I

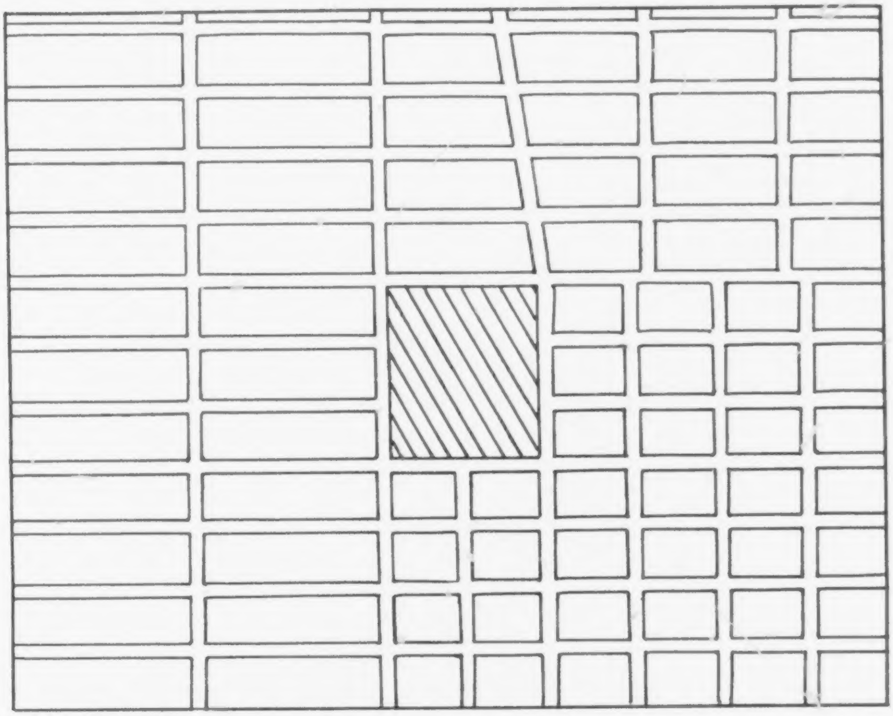


FIGURE 2 REAL WORLD-CASE I

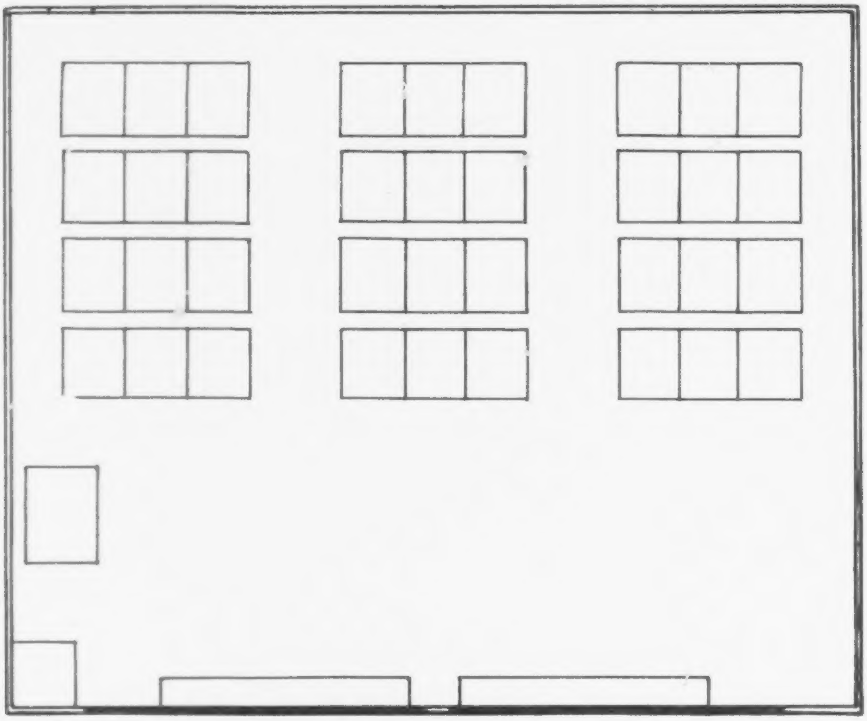


FIGURE 3 CLASSROOM WORLD - CASE II

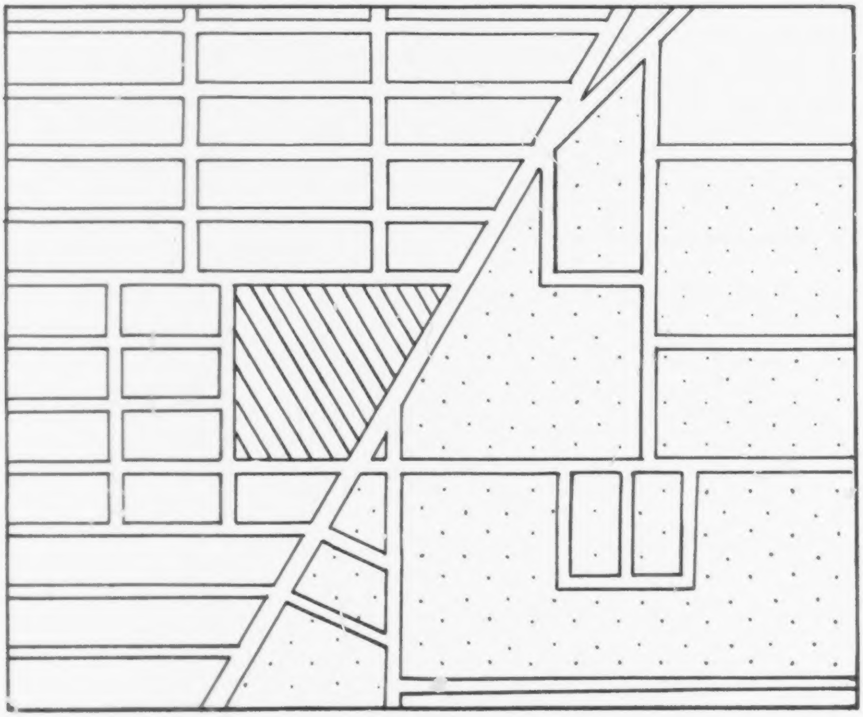


FIGURE 4 REAL WORLD - CASE II

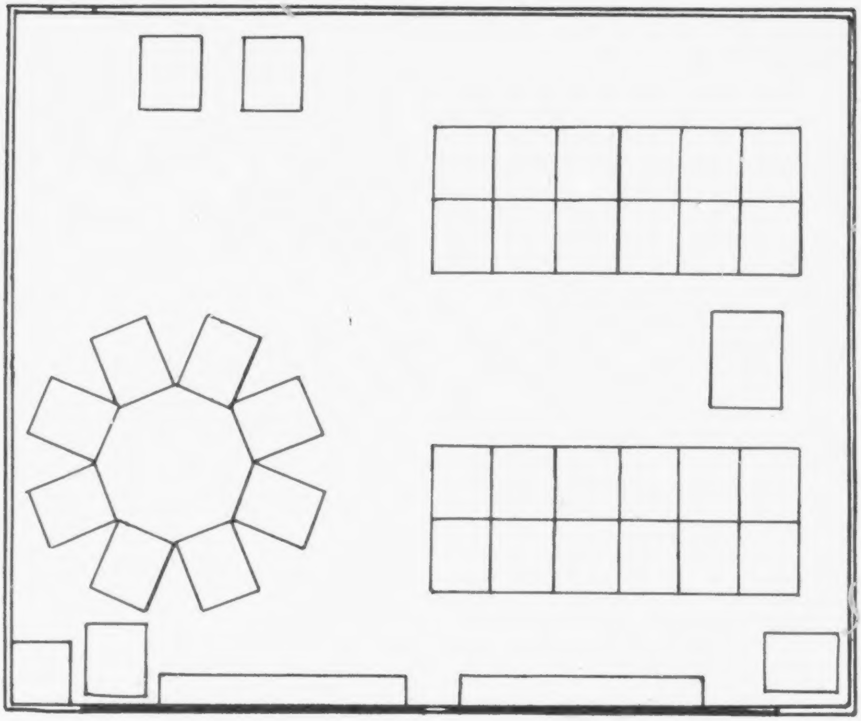


FIGURE 5 CLASSROOM WORLD - CASE III

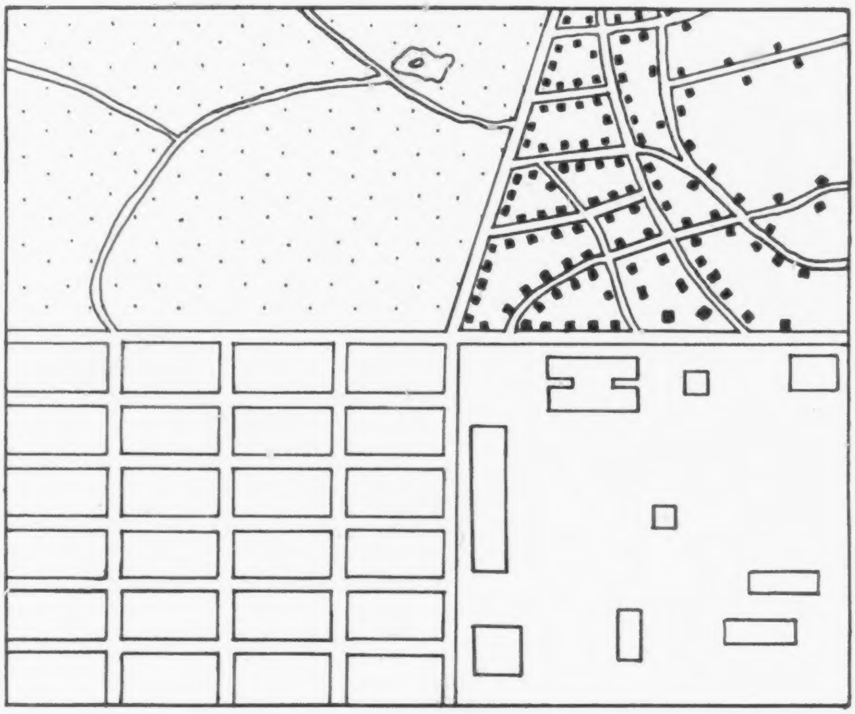


FIGURE 6 REAL WORLD - CASE III

C-1-186

Issue:	Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	The Transportation Maze: Passages and Portals
Title:	"PORTS: A Computer-Assisted Instruction Unit Simulating the Effects of Relative Locational Advantage on Port Growth."
Descriptor:	The growth of ports and port cities is affected by a variety of physical, economic, and technological factors. The PORTS C.A.I. unit is a framework by which students may investigate the growth of ports by altering physical features on a simulation gameboard. Participants will use both student and instructor manuals detailing the content and educational objectives of the unit. Following this, participants will enter a dialogue with the staff members about the materials and related topics.
Discussion Leader:	Preston O. Howard, Department of Geography, Florida State University.

* * * * *

Abstract of the PORTS Student Manual

Within the structured framework of the PORTS unit, the student manual serves primarily to tie all the separate components together so that the student can quickly become familiar with each one: the outside readings, the class discussions, and the actual computer simulation.

The first section of the manual introduces the student to the factors influencing port growth, especially emphasizing their complexity. In the second section, the student is shown how theories and models have been used in geographic research relating to port growth. (The student reads one such article: Peter J. Rimmer, "The Changing Status of New Zealand Seaports, 1853-1960." Annals of the Association of American Geographers, LVII (March, 1967), 88-100).

The PORTS computer simulation is then presented as a simulation model of the type mentioned above and designed for the student's use in analyzing theoretical and real-world port growth situations of his own choosing. An example of one such simulation applied to San Francisco is given on the following pages. Figure 1 shows the simulation gameboard upon which the student may locate mountains and rivers. A simplified map of a portion of the California coast centered on San Francisco is shown in Figure 2. The same real-world situation is shown in Figure 3 as it might be simulated in the PORTS C.A.I. unit. Figure 4 shows the port sizes at progressive intervals in the example simulation.

The manual concludes with a glossary of terms associated with the unit and a short bibliography.

Abstract of the PORTS Instructor Manual

The instructor manual serves as a guide for the instructor emphasizing the important ideas developed in the unit while suggesting means by which the unit's objectives may be attained. Each section of the unit is discussed individually (student readings, class discussions, and the computer simulation), followed by a list of instructional objectives for that section and illustrative sample questions.

Use of Materials Included in PORTS

The materials in the PORTS Computer Assisted Instruction unit are easily adaptable to almost any format the instructor would like to use. The suggested sequence, however, calls for approximately two hours of class time and between one and two hours at the computer console. The student would first be assigned the reading of the PORTS student manual and the article by Peter J. Rimmer mentioned earlier. The first classroom hour permits the instructor to assess how completely the students understand what they have read, and allows him to explain the procedures to be used in the completion of the unit. The student is at this time given instructions for the use of the computer and the times the computer is to be available for class use. The student then executes his PORTS computer simulations and collects and analyzes his findings with regard to how well his results agreed with real-world situations as well as with theories used in studying PORTS. A final class discussion permits the students to present their findings.

25	26	27	28	29	30
19	20	21	22	23	24
13	14	15	16	17	18
7	8	9	10	11	12
1	2	3	4	5	6

SEACOAST

Figure 1

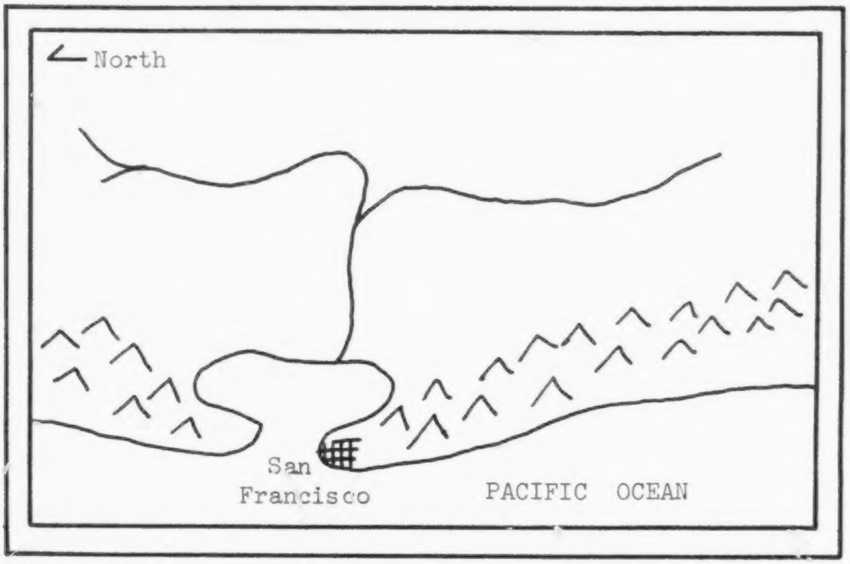

North
San Francisco
PACIFIC OCEAN

Figure 2

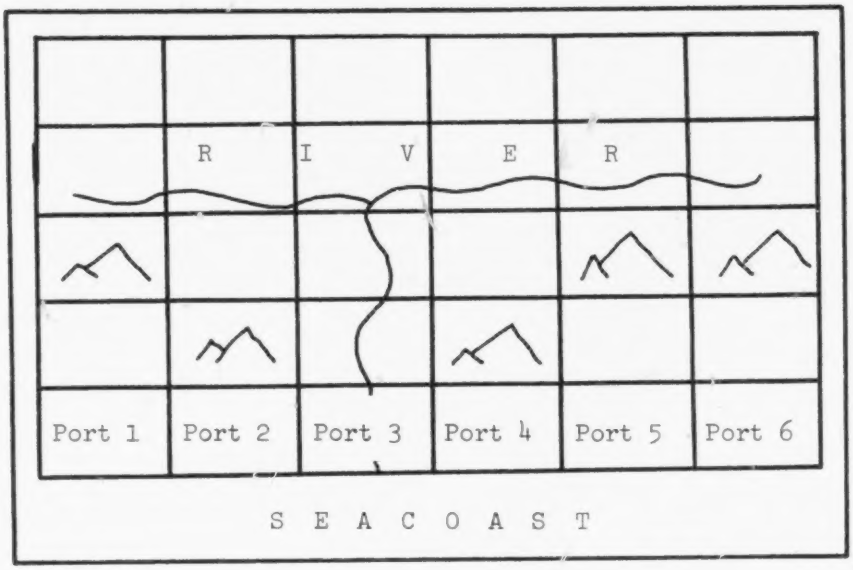

R I V E R
Port 1
Port 2
Port 3
Port 4
Port 5
Port 6
SEACOAST

Figure 3

SIMULATION TURN

Port	25	50	75	100	125	150
1	17	15	15	13	15	13
2	19	17	13	14	13	10
3	23	34	37	47	50	56
4	13	11	10	8	6	5
5	13	10	9	8	6	5
6	16	13	12	10	10	11

Figure 4

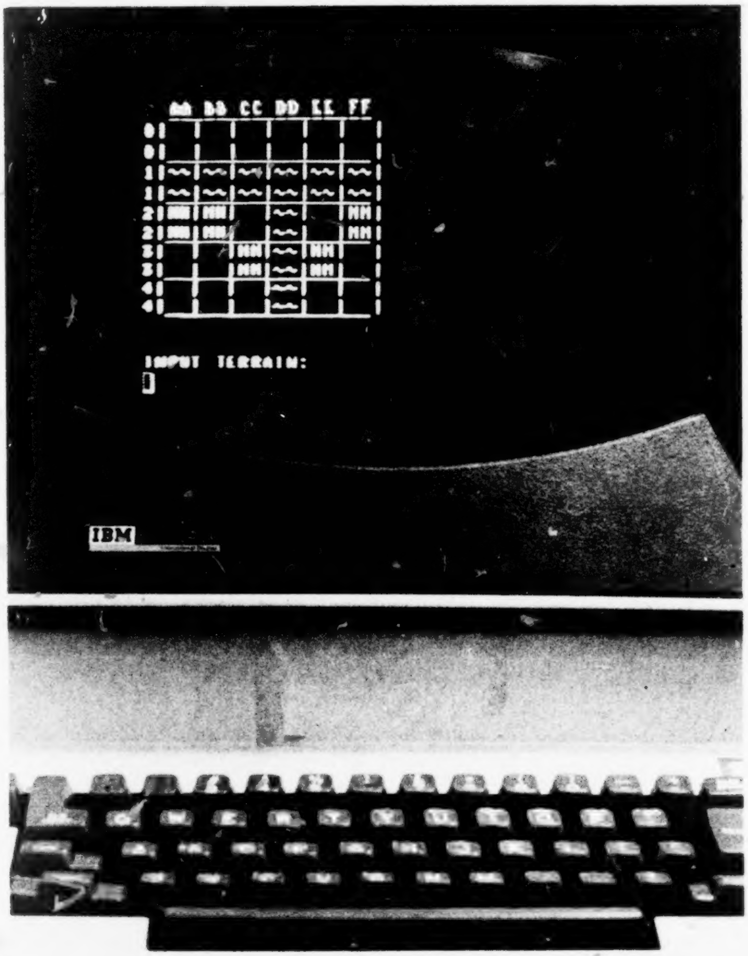

AA BB CC DD EE FF
0
0
1
1
2
2
3
3
4
4
INPUT TERRAIN:
IBM

Figure 5 (above)-- Student at Cathode Ray Tube terminal with PORTS simulation in operation.

Figure 6 (left)-- Close-up of Cathode Ray Terminal showing the simulation grid with mountains and rivers placed as in the example simulation of San Francisco.

Issue:	Urbanization-Industrialization: Threat or Panacea in the Twentieth Century.
Topic:	The Transportation Maze: Passages and Portals.
Title:	"The Port of Los Angeles and Related Transportation Maze."
Descriptor:	A concentration on the Port of Los Angeles as a connecting link with maritime shipping on one hand and land oriented transport facilities on the other.
Discussion Leader.	Richard Dastyck, Division of Social Science, Fullerton Junior College, Fullerton, California.

* * * * *

The Port of Los Angeles and Related Transportation Maze.

This activity demonstrates a type of culminating student research activity in Economic Geography. Types of imports and exports, sources and destinations of products, coastal and intercoastal shipping, rail and truck transportation facilities are examined through several types of sources. Copies of some of these will be available in the session.

C-2-192

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-being.

Title: "Computer Games for Economic Development."

Descriptor: This computer program takes factors involved in the growth and production of either native strains or improved strains (IR-8) of rice at the International Rice Research Institute (IRRI) in Los Banos, Philippines and performs a cost-yield analysis. Ricegrow*** was written by Steven C. Ruhle '72 with revisions by R. E. Huke. It uses the following files: RICELOC***, RICEIR8***, AND RICEINFO***.

Discussion Leader: Robert E. Huke, Department of Geography, Dartmouth College, Hanover, New Hampshire.

* * * * *

RICEGROW***

The computations take into account the following factors:

1) Variety of rice
2) Market value of each variety
3) Cost, amount and time of application of:
   A) Seed
   B) Fertilizers (Urea--45% Nitrogen content)
   C) Insecticides
   D) Herbicides
4) Equipment; animal; and labor costs of:
   A) Cropland preparation
   B) Seedbed preparation and care
   C) Transplanting seedlings
   D) Weeding, fertilizer, and chemical applications
   E) Harvesting and threshing
5) Size of farms

The above data, averaged for the years 1967-1969 are stored in files. The user will have the opportunity to view the file data of the rice type he has selected. He will then be able to change any or all data he desires.

INSTRUCTIONS -- Answer questions when prompted. At the user's discretion a table embodying a cost-yield analysis will be printed out.

ADDITIONAL COMMENTS --The local varieties of rice used in this program primarily consist of a strain called "PETA". This strain has been popular in the Philippines for many years. It is of fairly high yield and is disease resistant for an unimproved variety. "IR-8" is a newly developed strain of rice (first released in 1966). It, along with other new strains (for which complete figures are not yet available) are the so-called "miracle rices".

These miracle rices, when given the proper care (usually meaning greatly increased fertilizer inputs and better weeding and insect control) can produce yields of several times the yields of PETA on the same land. It has been predicted that because of these new high-yield strains of rice, many countries will become self-sufficient in rice production in 1970, something which has not occurred since years before World War II.

The price of IR-8 is somewhat lower than for PETA because of its slightly inferior quality. However newer strains (IR-20 and IR-22 have market values somewhat higher than PETA.

This program is designed to show the huge differences in yield between the two varieties of rice. The user is encouraged to vary the inputs for each variety. He will find that some will produce very poor results, others will produce results that are astounding!

Because of the great number of variables involved, this program is forced to make some assumptions:

The farmer owns his land.

In all cases, the program will assume an average amount of sunlight and rainfall. Only one crop will be grown during the wet season (April through August). The growing season at this time is 140 days for PETA and 120 days for IR-8. There is reliable wet season irrigation.

The farmer, his family, and neighbors (on an exchange labor basis) can do about 900-1100 man hours of work per growing season. Therefore, total hired labor is equal to total man hours of work minus 1000.

TERMS:

HECTARE (HA.) = 10000 square meters
KILOGRAM (KG.) - 2.2 pounds
PESO -25.6 cents ($1=3.90 pesos.)
CAVAN is a volume measure equal to roughly 44KG. of PALAY.
PALAY is the term for threshed but unhusked rice

* * * * * * * * * * * * * * * * * * * *

```
950  PRINT "WELCOME TO THE REAL WORLD!!  YOU ARE TO PLAY THE ROLE OF A"
955  PRINT "  SMALL-TIME RICE FARMER IN THE PHILIPPINES.  YOU HAVE"
960  PRINT "  CONTROL OVER MOST OF THE FACTORS WHICH INFLUENCE YOUR"
965  PRINT "  OUTPUT.  THE IDEA IS TO RAISE SEVERAL SUCCESSIVE CROPS,"
970  PRINT "  ALWAYS TRYING TO INCREASE YOUR PROFIT.  GOOD LUCK!"
975  PRINT
980  PRINT
1000
1005 RANDOMIZE
1010 DIM C(40)
```

```
12060 GOTO 1720
12070
13000' SUBROUTINE TO CHANGE FACTOR 4.
13010 PRINT
13020 PRINT "FOR NITROGEN FERTILIZER (UREA):"
13030 PRINT "     1. WHAT IS NEW RATE OF APPLICATION (KG./HA.)?"
13035 INPUT W3$
13036 IF W3$ = "SAME" THEN 13050
13038 LET W1 = VAL (W3$)
13040 IF W1 < 400 THEN 13050
13042 PRINT W1 "KG. OF UREA CONTAINS" W1*.45 "KG. OF NITROGEN."
13044 PRINT "YOUR CROP CAN NOT USE THAT MUCH.  YOU MAY CAUSE SOME"
13046 PRINT "DAMAGE TO THE ECOSYSTEMS IN NEARBY STREAMS.  AT THE"
13047 PRINT "VERY LEAST, YOU HAVE WASTED MANY PESOS."
13050 PRINT "     2.  WHAT IS THE NEW COST OF UREA (PESOS/KG.)?"
13052 INPUT W4$
13054 IF W4$ = "SAME" THEN 13100
13056 LET W2 = VAL (W4$)
13057 IF W2< 1.00 THEN 13100
13058 LET W4$ = ""
13059 LET W2 = 0
13060 PRINT "THAT IS EXPENSIVE FERTILIZER - PLEASE REPEAT."
13062 PRINT "     2. WHAT IS THE NEW COST OF UREA (PESOS/KG.)"
13064 INPUT W4$
13066 IF W4$ = "SAME" THEN 13100
13068 LET W2 = VAL (W4$)
13070 IF W2< 1.00 THEN 13100
13072 PRINT "IF YOU WANT TO BUY AT THAT PRICE ITS O.K. WITH ME."
13100 GOTO 1720
13110
14000' SUBROUTINE TO CHANGE FACTOR 5.
14010 PRINT
14020 PRINT "DOES FARMER USE 'CARABAO' (WATER BUFFALO) OR 'TRACTOR'"
14030 PRINT "FOR CROPLAND PREPARATION";
14040 INPUT U2$
14050 IF U2$="CARABAO" THEN 14100
14060 IF U2$="TRACTOR" THEN 14230
14070 IF U2$="SAME" THEN 14320
14080 PRINT "ERROR -- RETYPE IT";
14090 GOTO 14040
14100 PRINT "DOES FARMER 'OWN' OR 'HIRE' CARABAO";
14110 INPUT U3$
14120 IF U3$="OWN" THEN 14310
14130 IF U3$="HIRE" THEN 14160
14140 PRINT "ERROR -- RETYPE IT";
14150 GOTO 14110
14160 PRINT "THE CURRENT RATE FOR CARABAO PLUS HANDLER IS" U1 "PESOS/"
14170 PRINT "HOUR. DO YOU WISH TO CHANGE IT (ANSWER 'NO' OR GIVE"
14180 PRINT "NEW RATE)";
14190 INPUT U4$
14200 IF U4$="NO" THEN 14320
14210 LET U1=VAL(U4$)
```

```
14220 GOTO 14300
14230 PRINT "THE CURRENT RATE FOR HIRED TRACTOR PLUS DRIVER IS"
14240 PRINT U "PESOS/HR. DO YOU WISH TO CHANGE IT (ANSWER 'NO' OR GIVE"
14250 PRINT "OR GIVE NEW RATE)";
14260 INPUT U4$
14270 LET U1$="HIRE"
14280 IF U4$="NO" THEN 14300
14290 LET U=VAL(U4$)
14300 LET U$=U2$
14310 LET U1$=U3$
14320 GOTO 1720
14330
15000' SUBROUTINE TO CHANGE FACTOR 6.
15005 IF B=1 THEN 15230
15010 PRINT
15020 PRINT "THERE ARE THREE WEEDING METHODS AVAILABLE"
15030 PRINT "     1. HAND WEEDING."
15040 PRINT "     2. ROTARY HAND WEEDER."
15060 PRINT "     3. GRANULAR HERBICIDE (2,4-D ISOPROPYL ESTER)"
15070 PRINT
15080 PRINT "THESE METHODS MAY BE EMPLOYED EITHER SINGLY OR IN"
15090 PRINT "COMBINATION WITH ONE OTHER METHOD.";
15110 PRINT "WHEN REQUESTED,"
15120 PRINT "INPUT NUMBERS CORRESPONDING TO THE METHODS ABOVE,"
15130 PRINT "FOR INSTANCE '2' MEANS ONE ROTARY WEEDING, '32" MEANS"
15140 PRINT "2,4-D FOLLOWED BY A ROTARY WEEDING, AND '11' MEANS"
15150 PRINT "2 HAND WEEDINGS."
15155 PRINT
15160 PRINT "PLEASE NOTE THE FOLLOWING:"
15170 PRINT "   A. WEEDS COMPETE VIGOROUSLY WITH RICE AND LOWER"
15180 PRINT "      THE POTENTIAL YIELD."
15190 PRINT "   B. WHEN A HAND WEEDING IS DONE IN COMBINATION WITH"
15200 PRINT "      ANOTHER METHOD, THE HAND WEEDING IS USUALLY DONE"
15210 PRINT "      LAST (I.E. '31', NOT '13'!)"
15220 PRINT "   C. IF YOU DESIRE NO WEEDING, INPUT 0 (ZERO)."
15230 PRINT
15240 PRINT "WHAT WEEDING METHODS ARE TO BE USED";
15250 INPUT T$
15260 IF T$="SAME" THEN 15360
15270 LET T=VAL(T$)
15280 IF T<>0 THEN 15310
15290 LET T1=0
15300 GOTO 15360
15310 PRINT "HOW MANY DAYS AFTER TRANSPLANTING IS THE WEEDING"
15320 PRINT "OPERATION STARTED";
15330 INPUT T1
15360 LET B = 1
15370 GOTO 1720
15380
16000' SUBROUTINE TO CHANGE FACTOR 7.
16010 PRINT
16020 PRINT "IS THRESHING DONE BY 'HAND' OR 'MACHINE'";
16030 INPUT S1$
16040 IF S1$="SAME" THEN 16060
```

```
16050 LET S$=S1$
16060 GOTO 1720
16070
17000' SUBROUTINE TO CHANGE FACTOR 8.
17010 PRINT
17020 PRINT "WHAT IS THE NEW MARKET VALUE OF ROUGH RICE (PESOS/KG.)";
17030 INPUT P$
17040 IF P$="SAME" THEN 17060
17050 LET P=VAL(P$)
17060 GOTO 1720
20000'DEFINITION OF TERMS
20005
20010' TERMS THAT ARE INPUT FROM FILES
20015'   FROM FILE #1
20020' Z=FARM SIZE
20025' Y=COSTS OF OUTSIDE LABOR (PESOS PER DAY)
20030' W2=COST OF FERTILIZER (PESOS PER KILOGRAM)
20035' U$=METHOD OF TILLING (CARABAO OR TRACTOR)
20040' U1$=STATUS OF CARABAO (OWN OR HIRE)
20045' U=RATE FOR TRACTOR (PESOS PER HOUR)
20050' U1-RATE FOR CARABAO (PESOS PER HOUR)
20055" T=WEEDING METHOD
20060' T1=DAT (DAYS AFTER TRANSPLANTING) OF WEEDING
20065' S$=METHOD OF THRESHING (HAND OR MACHINE)
20070'   FROM FILE #2
20075' W1=AMOUNT OF FERTILIZER APPLIED (KG./HA.)
20080' Q=BASE YIELD OF RICE STRAIN (KG./HA.)
20085' P=PRICE OF ROUGH RICE (PESOS/KG.)
20090' A8,A9 ARE NUMERICAL COEFFICIENTS FOR FNA(N)
20095
20100'TERMS THAT ARE DEFINED WITHIN THE PROGRAM
20105' A$=NAME OF FILE #2
20110
20115' B$=DOES USER DESIRE TO RERUN PROGRAM
20120' B1$=DOES USER DESIRE TO CHANGE RICE TYPE FOR RERUN
20125' B2$=DOES USER DESIRE TO SEE UPDATED FILE OF INPUT VARIABLES
20130
20135' C$=INPUT OF FACTORS USER DESIRES TO CHANGE
20140' C IS FACTOR FOR CHANGE IN YIELD AS RESULT OF DIFFERENT OPERATIONS
20145'
20150' D=TOTAL LABOR TIME (MAN-HR/HA)
20155' D1= LABOR TIME/HA FOR FERTILIZER APPLICATION
20160' D2=LABOR TIME/HA FOR TRANSPLANTING
20165' D3=LABOR TIME/HA FOR METHOD OF WEEDING
20170' D4=LABOR TIME/HA FOR APPLICATION OF INSECTICIDE
20175' D5=LABOR TIME/HA FOR HARVESTING
20180' D6=LABOR TIME/HA FOR HAND THRESHING
20185' D7=LABOR TIME/HA USING SELF OWNED CARABAO
20190' D8= TOTAL LABOR TIME FOR 'Z' HA FARM
20195
20200' E=TOTAL COSTS PER HA
20205' E1-TOTAL MATERIALS COSTS PER HA
20210' E2=TOTAL ANIMAL AND TRACTOR COSTS PER HA
20215' E3=TOTAL HIRED LABOR COSTS
```

```
20220
20225' F1=IRRIGATION FEE PER HA
20230' F2=LAND TAX
20235' F3=COST FOR 1000 HR LABOR
20240
20245' H=TOTAL MAN HOURS PER HECTARE
20250' H1=TOTAL CARABAO HOURS PER HECTARE
20255' H2=TOTAL MACHINE HOURS PER HECTARE
20260
20265' I-TOTAL YIELD PER HA
20270' I1=TOTAL YIELD FOR 'Z' HA FARM
20275
20280' K=TOTAL MATERIALS COST PER HA
20285' K1=TOTAL SEED COSTS PER HA
20290' K2=TOTAL FERTILIZER COSTS PER HA
20295' K3=TOTAL INSECTICIDE COSTS PER HA
20300' K4=TOTAL HERBICIDE COSTS PER HA
20305' K5=THRESHING COSTS PER HA
20310' K6=HAULING COSTS PER HA
20315
20320' L=CROP LOSS FACTOR DUE TO STEM BORER
20325' L1=TOTAL CARABAO COST (PESOS/HA)
20330' L2-TOTAL TOTAL TRACTOR COST (PESOS/HA)
20335' L3=L1+L2
20340
20345' N=AMT. ELEMENTAL NITROGEN IN FERTILIZER
20350' P1=TOTAL RECEIPTS FROM SALE OF ROUGH RICE (FOR 'Z' HA FARM)
20355' R=DEGREE OF STEM BORER INFESTATION
20360
20365
30000' SUBROUTINE
30010' PRINTS OUT ORIGINAL DATA FROM FILES, OR UPDATED DATA
30020' OF INPUT VARIABLES, DEPENDING UPON VALUE OF B2$
30030 PRINT
30040 PRINT
30050 IF B2$="YES" THEN 30080
30060 PRINT "INPUT VARIABLES:"
30070 GOTO 30110
30080 PRINT "UPDATED INPUT VARIABLES:"
30090 PRINT "     INCLUDING CHANGES MADE BY USER"
30100 PRINT
30110 PRINT "     RICE TYPE " A$
30120 PRINT
30130 PRINT "1. FARM SIZE "Z" HA."
30140 PRINT "2. COST OF HIRED LABOR "Y" PESOS/DAY."
30150 PRINT "3. COST OF SEED "X" PESOS/HA."
30160 PRINT "4. AMOUNT OF FERTILIZER APPLIED "W1" KG./HA."
30170 PRINT "   COST OF FERTILIZER "W2" PESOS/KG."
30180 PRINT "5. CROPLAND IS PREPARED WITH A "U1$"-ED "U$
30190 IF U1$="OWN" THEN 30240
30200 IF U$="TRACTOR" THEN 30230
30210 PRINT "     AT A RATE OF "U1" PESOS PER HOUR."
30220 GOTO 30240
30230 PRINT "     AT A RATE OF "U" PESOS PER HOUR."
```

```
2995 LET R = 2*R
3000 LET L=1.00-.015*R   'FRACTION LOSS OF CROP
3010 LET C=C*L
3015 IF R$ = "NO" THEN 3030
3020 LET D4=2*8
3030
3040' TOTAL YIELD PER HECTARE
3050 LET I=C*Q
3060
3070' HARVESTING
3072 IF I = <1 THEN 3076
3074 GO TO 3080
3076 LET I = 0
3080 LET D5=.0111*I
3090
3100' THRESHING
3110 IF S$="MACHINE" THEN 3150
3120 LET D6=I/20
3130 GOTO 5000
3140 LET I=.9*I
3150 LET I=.9*I    '10% EXTRA CROP LOSS FOR MACHINE THRESHING
3160
3170
3180
5000' EXPENSES
5010
5020
5030' TOTAL ANIMAL COST.
5040 IF U1$="OWN" THEN 5070
5050 LET L1=U1*H1
5060 GOTO 5100
5070 LET L1=(2.00*H1)/6
5080 LET D7=H1
5090
5100' TOTAL TRACTOR COST.
5110 IF U$<>"TRACTOR" THEN 5150
5120 LET L2=U*H2
5130
5140
5150' MATERIAL COSTS.
5160
5170' SEED COSTS.
5180 LET K1=X
5190
5200' FERTILIZERS.
5210 LET K2=W1*W2
5220
5230' INSECTICIDES.
5240 IF R$ = "NO" THEN 5254
5250 LET K3=1.5*4.0
5252 GO TO 5260
5254 LET K3 = 0
```

```
5260
5270' WEEDING, HERBICIDE EXPENSE.
5280 IF T = 33 THEN 5310
5290 IF T = 3 THEN 5325
5291   IF T = 13 THEN 5325
5292  IF T = 31 THEN 5325
5293   IF T = 32 THEN 5325
5300 GO TO 5350
5310 LET K4 = 75
5320 GOTO 5360
5325    LET K4 - 35
5350
5360' THRESHING.
5370 IF S$="HAND" THEN 5400
5380 LET K5=.05*I*P
5390
5400' HAULING.
5410 LET K6=.0045*I
5420
5430' TOTAL LABOR (MAN-HR./HA.)
5440 LET D=D1+D2+D3+D4+D5+D6+D7+D9
5450
5460' TOTAL MATERIALS COSTS/HA. (PESOS).
5470 LET K=K1+K2+K3+K4+K5+K6
5480
5490' TOTAL HIRED ANIMALS + TRACTOR COSTS/HA. (PESOS).
5500 LET L3=L1+L2
5510
5520' COSTS FOR 'Z' HECTARE FARM.
5530 LET E1=Z*K
5540 LET E2=Z*L3
5550 LET D8=Z*D
5560' FARMER + FAMILY + EXCHANGE LABOR WILL ACCOUNT FOR ABOUT
5570' 1000 HOURS OF LABOR.  SO, TOTAL HIRED LABOR:
5580 IF D8-1000<0 THEN 5610
5590 LET E3=(D8-1000)*Y/8
5600 GOTO 5630
5610 LET E3=0
5620
5630' TOTAL COSTS.
5640 LET E=E1+E2+E3
5650
5660' TOTAL YIELD FOR 'Z' HA. FARM.
5670 LET I1=Z*I
5680
5690' TOTAL RECEIPTS FOR SALE OF ROUGH RICE.
5700 LET P1 = (P*I1)/44
5710
5720' FIXED COSTS
5730 LET F1=25
5740 LET F2=6.50
5741 LET F3=1000*3.5/8
5742 PRINT
5743 PRINT
```

```
5745 LET A3 = ABS (SQR(-2*LOG(RND))*SIN(2*3.1415926*RND)) 'RAT LOSS
5746 LET A4 = INT (A3*20)
5747 IF A4  >29 GO TO 5768
5748 IF A4  >15 GO TO 5762
5751 PRINT
5752 PRINT
5758 PRINT "YOU WERE VERY LUCKY THIS SEASON, PALAY GREW WELL AND YOU"
5759 PRINT "LOST ONLY "A4" PERCENT OF THE CROP TO RATS."
5760 LET I1 = I1 - ((A4/100)*I1)
5761 GO TO 5780
5762 PRINT "CROP LOOKED GOOD BUT IN THE WEEK BEFORE HARVEST MANY RATS"
5763 PRINT " CONVERGED ON THE FIELDS AND DESTROYED "A4" PERCENT OF"
5764 PRINT "THE STANDING CROP.  BETTER LUCK NEXT YEAR!!"
5765 LET I1 = I1 - ((A4/100)*I1)
5766 GO TO 5780
5768 PRINT "THE PALAY WAS DOING WELL - BUT, MAN - DID YOU GET HIT BY"
5769 PRINT "RATS!! 10 DAYS BEFORE HARVEST THEY DESCENDED LIKE THE PLAGUE"
5770 PRINT "AND RUINED "A4" PERCENT OF YOUR STAND. EGAD!!"
5772 LET I1 = I1 - ((A4/100)*I1)
5773 GO TO 5780
5780 PRINT
5790 PRINT "DO YOU WISH COMPLETE COST-YIELD ANALYSIS";
5800 INPUT O$
5810 IF O$="NO" THEN 6000
5820 IF O$="YES" THEN 6000
5830 PRINT "YES OR NO";
5840 GOTO 5800
5850
5860
5870
6000' PRINTOUT FOR COST-YIELD ANALYSIS.
6010 PRINT
6020 PRINT
6030 PRINT
6040 PRINT
6050 PRINT
6060 PRINT"-----------------------------------------------------------"
6070 PRINT
6080 PRINT
6090 PRINT
6110 PRINT "     ECONOMICS OF RICE PRODUCTION IN THE PHILIPPINES"
6120 PRINT
6130 PRINT
6140 PRINT
6150 PRINT  "RICE TYPE: "A$
6160 PRINT
6170 PRINT "FARM SIZE:" Z "HECTARES."
6174 IF I = <1 THEN 6176
6175 GO TO 6180
6176 LET I = 0
6180 PRINT "TOTAL YIELD: "I1" KILOGRAMS"
6190 PRINT
6200 PRINT
```

```
6210 PRINT "................................"
6220 PRINT
6225 IF O$="NO" THEN 6242
6230 PRINT
6240 PRINT "OPERATING COST:"
6242 PRINT TAB(40);"OWNER";TAB(50);"TENANT"
6246 LET Z5 = Z*K1/2
6248 LET Z8 = Z*K1/2
6249 IF O$="NO" THEN 6274
6250 PRINT
6260 PRINT "MATERIAL INPUTS"
6270 PRINT "   SEEDS (44 KG/HA)";
6272 PRINT TAB (40);Z*K1/2;TAB(50);Z*K1/2
6274 LET Z5 = Z*K1/2
6276 LET Z8 = Z*K1/2
6280 IF K2=0 THEN 6300
6285 IF O$="NO" THEN 6294
6290 PRINT " FERTILIZER (UREA) @"W2"PESOS/KG";
6292 PRINT TAB (40);Z*K2/2;TAB(50);Z*K2/2
6294 LET Z5 = Z5 + (Z*K2/2)
6296 LET Z8 = Z8 + (Z*K2/2)
6300 IF K3=0 THEN 6320
6305 IF O$="NO" THEN 6314
6310 PRINT "   INSECTICIDE (MEPTOX) @4 PESOS/BOTTLE"
6312 PRINT TAB (42);Z*K3;TAB (52);"0"
6314 LET Z5 = Z5 + (Z*K4)
6320 IF K4=0 THEN 6340
6325 IF O$="NO" THEN 6334
6330 PRINT "   HERBICIDE - .8KG AI/HA.";
6332 PRINT TAB (42);Z*K4;TAB(52);"0"
6334 LET Z5 = Z5 + (Z*K4)
6335 IF O$="NO" THEN 6355
6340 PRINT
6345 IF O$="NO" THEN 6355
6350 PRINT "SEEDBED PREPARATION --"4*Z"DAYS MAN AND"
6355 PRINT
6360 IF U1$="OWN"THEN 6385
6365 IF O$="NO" THEN 6374
6370 PRINT "   CARABAO AT"6*U1"PESOS/DAY";
6372 PRINT TAB(42);"0";TAB(50);Z*24*U1
6374 LET Z8 = Z8 + (Z*24*U1)
6380 GOTO 6410
6385 IF O$="NO" THEN 6406
6390 PRINT "   CARABAO.  SEE 'LAND PREPARATION' FOR"
6400 PRINT "   COST OF OWNING ANIMAL."
6402 PRINT "   OPERATOR's LABOR";
6404 PRINT TAB(42;"0";TAB(50);Z*Y*4
6406 LET Z8 = Z8 + (Z*Y*4)
6407 IF O$="NO" THEN 6425
6410 PRINT
6412 IF O$="NO" THEN 6425
6420 PRINT "LAND PREPARATION -- FLOWING AND HARROWING"
6425 PRINT
6430 IF U$="CARABAO" THEN 6460
```

```
6435 IF O$="NO" THEN 6444
6440 PRINT "   "Z*H2/8" TRACTOR DAYS @"8*U"P/DAY";
6442 PRINT TAB(42);"0";TAB(50);Z*L2
6444 LET Z8 = Z8 + (Z*L2)
6450 GOTO 6510
6460 IF U1$="OWN" THEN 6495
6465 IF O$="NO" THEN 6484
6470 PRINT "   "Z*(H1-24)/8"DAYS FOR CARABAO"
6480 PRINT "   AT"8*U1"PESOS/DAY:;
6482 PRINT TAB (42);"0";TAB(50);Z*U1*(H1-24)
6484 LET Z8 = Z8 + (Z*U1*(H1-24))
6490 GOTO 6510
6495 IF O$="NO" THEN 6503
6500 PRINT "   COST FOR OWNING CARABAO";
6502 PRINT TAB(42);"0";TAB(50);Z*L1
6503 LET Z8 = Z8+(Z*L1)
6504 IF O$="NO" THEN 6507
6505 PRINT "   OPERATOR'S LABOR";
6506 PRINT TAB(42);"0";TAB(50);Y*(Z*(H1-24)/8)
6507 LET Z8 = Z8 + (Y*(Z*(H1-24/8))
6510 PRINT
6520 IF K2=0 THEN 6560
6525 IF O$="NO" THEN 6544
6530 PRINT "COSTS OF APPLYING FERTILIZER"
6540 PRINT "   ";((1.5*Z)+(W1*Z/50));"MAN DAYS @";Y;"PESOS/DAY";
6541' MAN DAYS A FUNCTION OF INTENSITY OF APPLICATION
6542 PRINT TAB (42);"0";TAB(50);Y*((1.5*Z)+(Z*W1/50))
6544 LET Z8 = Z8 +(Y*((1.5*Z)+(Z*W1/50)))
6545 IF O$="NO" THEN 6564
6550 PRINT
6560 PRINT "TRANSPLANTING - 18 MAN DAYS/HA";
6562 PRINT TAB (40);Z*D2*Y/8;TAB(52);"0"
6564 LET Z5 = Z5 + (Z*D2*Y/8)
6570 PRINT
6580 IF R=0 THEN 6620
6583 IF R$ = "NO" THEN 6620
6589 IF O$="NO" THEN 6604
6590 PRINT "APPLICATION OF PESTICIDE"
6600 PRINT "   2 MAN DAYS/HA AT"Y"PESOS/DAY";
6602 PRINT TAB (42);"0";TAB(50);Z*D4*Y/8
6604 LET Z8 = Z8 +(Z*D4*Y/8)
6610 PRINT
6620 IF T=0 THEN 6660
6625 IF O$="NO" THEN 6644
6630 PRINT "WEEDING COSTS -- METHOD"T
6640 PRINT "   "D3"MAN HOURS/HA.";
6642 PRINT TAB(42);"0";TAB(50);Z*D3*Y/8
6644 LET Z8 = Z8 + (Z*D3*Y/8)
6645 IF O$="NO" THEN 6674
6650 PRINT
6660 PRINT "HARVESTING COSTS"
6670 PRINT " HARVESTING RATE ABOUT 32 KG/MAN-HR";
6672 PRINT TAB(40);(Z*D5*Y/8)/2;TAB(50);(Z*D5*Y/8)/2
```

```
6674 LET Z5 = Z5 +((Z*D5*Y/8)/2
6676 LET Z8 - Z8 + ((Z*D5*Y/8)/2)
6677 IF O$="NO" THEN 6695
6680 PRINT
6690 PRINT "THRESHING"
6695 PRINT
6700 IF S$="MACHINE" GO TO 6725
6705 IF O$="NO" THEN 6714
6710 PRINT "   RATE IS ABOUT 20 KG/MAN-HR.";
6712 PRINT TAB(40);(Z*D6*Y/8)/2;TAB(50);(Z*D6*Y/8)/2
6714 LET Z5 = Z5 + ((Z*D6*Y/8)/2)
6716 LET Z8 = Z8 + ((Z*D6*Y/8)/2)
6720 GOTO 6740
6725 IF O$="NO" THEN 6754
6730 PRINT "   COST BY MACHINE = 5% OF YIELD";
6732 PRINT TAB(40);Z*K5/2;TAB(50);Z*K5/2
6734 LET Z5 = Z5 + (Z*K5/2)
6736 LET Z8 = Z8 +(Z*K5/2)
6738 IF O$="NO" THEN 6754
6740 PRINT
6745 IF O$="NO" THEN 6754
6750 PRINT " HAULING COSTS - .0045 PESOS/KG";
6752 PRINT  TAB(40);Z*K6/2;TAB(50);Z*K6/2
6754 LET Z5 = Z5 +(Z*K6/2)
6756 LET Z8 = Z8 +(Z*K6/2)
6757 IF O$="NO" THEN 6894
6760 PRINT
6770 PRINT TAB(38);"------------------------------"
6780 PRINT "       TOTAL OPERATING COSTS";
6782 PRINT TAB(39):(INT(Z5*100))/100;TAB(49);(INT(Z8*100))/100;"PESOS"
6790 PRINT
6800 PRINT "NOTE, HOWEVER, THAT A CONSIDERABLE PORTION OF THE TENANT'S"
6810 PRINT "COSTS ARE IN TERMS OF HIS OWN AND HIS FAMILY'S LABOR."
6820 PRINT
6840 PRINT
6850 PRINT "..........................."
6860 PRINT
6870 PRINT
6880 PRINT "FIXED COSTS"
6890 PRINT "   IRRIGATION FEES (25 PESOS/HA):;
6892 PRINT TAB(40);Z*F1/2;TAB(50);Z*F1/2
6894 LET Z5 = Z5+(Z*F1/2)
6896 LET Z8 = Z8+(Z*F1/2)
6898 IF O$="NO" THEN 6904
6900 PRINT "   LAND TAX - (6.50 PESOS/HA.)";
6902 PRINT TAB(40);Z*F2;TAB(52);"0.0"
6904 LET Z5 = Z5+(Z*F2)
6906 IF O$="NO" THEN 6919
6910 PRINT TAB(39);"-------------------"
6912 PRINT
6914 PRINT " T O T A L  C O S T S":
6915 PRINT TAB(38);Z5;TAB(48);Z8
6916 PRINT
6917 PRINT ". . . . . . . . . . . . . . . . . . . . . . ."
```

```
6918 PRINT
6919 PRINT "S U M M A R Y"
6920 PRINT "    TOTAL VALUE OF "I1"KG. OF"
6921 PRINT "       PALAY @"P"PESOS/KG.";
6922 PRINT TAB(38);I1*P/2;TAB(48);I1*P/2
6923 PRINT
6924 PRINT "LESS TOTAL EXPENSES" TAB(38);Z5;TAB(48);Z8
6926 PRINT TAB(36);"-------------------"
6928 PRINT
6930 PRINT "   N E T   P R O F I T";
6932 PRINT TAB(38);(I1*P/2)-Z5;TAB(48);(I1*P/2)-Z8
6940 PRINT
6950 PRINT
7000 IF ((I1*P/2)-Z8) (Z*50) THEN 7020
7010 GO TO 7065
7020 PRINT "YOU ARE ONE HECK OF A POOR FARMER - YOUR KIDS WILL STARVE"
7022 PRINT "AT THAT RATE.  YOU MADE AT LEAST ONE VERY POOR DECISION."
7024 PRINT "YOU HAD BETTER CORRECT IT BEFORE NEXT SEASON."
7050 PRINT
7060 PRINT
7065 GO TO 8100
7070 PRINT "..........................."
7080 PRINT
7090 PRINT
8090 PRINT
8100 PRINT
8110 PRINT "------------------------------------------------------------"
8120
9000' RETURN TO BEGINNING
9010 PRINT
9020 PRINT
9030 PRINT
9040 IF B$<>"  "  THEN 9130
9050 PRINT "YOU WILL NOW HAVE THE OPTION OF RERUNNING THE PROGRAM."
9060 PRINT "YOU MAY ELECT TO CHANGE THE RICE TYPE.  IF SO, ALL FACTORS"
9070 PRINT "WILL CHANGE TO THOSE FOR THE NEW RICE TYPE AND YOU WILL"
9080 PRINT "HAVE THE OPTION OF ALTERING THEM, AS IN THE FIRST TIME"
9090 PRINT "THROUGH. IF YOU DO NOT CHANGE THE RICE TYPE, THE FACTORS"
9100 PRINT "WILL REMAIN AS THEY ARE CURRENTLY.  YOU MAY STILL CHANGE"
9110 PRINT "ONE OR MORE IF DESIRED."
9120 PRINT
9130 PRINT "DO YOU WISH TO RUN PROGRAM AGAIN";
9140 INPUT B$
9150 PRINT
9160 IF B$="NO" THEN 9510
9170 IF B$="YES" THEN 9210
9180 PRINT "YES OR NO";
9190 GOTO 9140
9200
9210 PRINT "DO YOU WISH TO CHANGE THE RICE TYPE (ANSWER 'NO' OR"
9220 PRINT "GIVE THE NEW RICE TYPE: 'LOCAL' OR 'IR-8')";
9230 INPUT B1$
```

```
9240 IF B1$="NO" THEN 9330
9250 IF B1$="IR-8" THEN 9290
9260 IF B1$="LOCAL" THEN 9290
9270 PRINT "ERROR -- RETYPE IT";
9280 GOTO 9230
9290 LET A$=B1$
9300 GOSUB 9420
9310 GO TO 1062
9320
9330 GOSUB 9420
9340 PRINT
9350 PRINT "DO YOU WISH TO SEE FILE DATA AS IT STANDS NOW";
9360 INPUT B2$
9370 IF B2$="NO" THEN 9400
9380 GOSUB 30000
9390 PRINT
9400 GOTO 1510
9410
9420' SUBROUTINE TO INITIALIZE VARIABLES FOR PROGRAM RERUN
9430 LET D3=D4=D6=D7=0
9440 LET H=H1=H2=0
9450 LET K1=K2=K3=K4=K5=0
9460 LET L1=L2=0
9470 RETURN
9480
9490
9500
9510 STOP
9520
10000' SUBROUTINE TO CHANGE FACTOR 1
10010 PRINT
10020 PRINT "WHAT IS THE NEW FIELD SIZE IN HECTARES";
10030 INPUT Z1$
10040 If Z1$="SAME" THEN 10060
10050 LET Z-VAL(Z1$)
10060 GOTO 1720
10070
11000' SUBROUTINE TO CHANGE FACTOR 2
11010 PRINT
11020 PRINT "WHAT IS THE NEW COST OF OUTSIDE LABOR,"
11030 PRINT "(IN PESOS PER DAY)";
11040 INPUT Y1$
11050 IF Y1$="SAME" THEN 11070
11060 LET Y=VAL(Y1$)
11070 GOTO 1720
11080
12000' SUBROUTINE TO CHANGE FACTOR 3.
12010 PRINT
12020 PRINT "WHAT IS THE NEW COST OF SEED IN PESOS/HA.";
12030 INPUT X1$
12040 IF X1$="SAME" THEN 12060
12050 LET X=VAL(X1$)
```

```
1012 LET T8 = 0      'COUNTER
1020 FILES*;*
1025 FILE #1:"RICEINFO***"
1030 PRINT "'LIST' PROGRAM FOR COMPLETE EXPLANATION OF PURPOSE."
1040 PRINT
1050 PRINT "IS 'LOCAL' OR 'IR-8' RICE TO BE PLANTED";
1060 INPUT A$
1062 IF A$="LOCAL" THEN 1066
1064 LET A1$="RICEIR8***"
1065 GOTO 1070
1066 LET A1$="RICELOC***"
1070 FILE #2:A1$
1080 RESET #1:0
1090 RESET #2:0
1100 INPUT #1:Z,Y,X,W2
1110 INPUT #2:W1
1120 INPUT #1:U$,U1$
1130 INPUT #1:U,U1,T,T1
1140 INPUT #1:B$
1150 INPUT #2:Q,P,A8,A9
1160 DEF FNA(N)=A8*N↑2+A9*N+1
1170 PRINT "DO YOU WISH TO SEE FILE DATA";
1180 INPUT O$
1190 IF O$="YES" THEN 1230
1200 IF O$="NO" THEN 1240
1210 PRINT "YES OR NO";
1220 GOTO 1180
1230 GOSUB 30000
1240
1250 PRINT
1260 IF B$<>" " THEN 1510
1270 PRINT "THE FACTORS YOU MAY CHANGE ARE AS FOLLOWS:"
1280 PRINT "      1.  SIZE OF FARM (IN HECTARES)."
1282 PRINT "THE MEAN FARM SIZE IN CENTRAL LUZON IS ABOUT 2.4 HAS. BUT"
1283 PRINT "SOME FARMS ARE A FRACTION OF A HA. WHILE OTHERS ARE AS"
1284 PRINT "LARGE AS 50 HECTARES."
1285 PRINT
1290 PRINT "      2.  COST OF OUTSIDE LABOR (IN PESOS/DAY)"
1292 PRINT " LABOR COSTS PER DAY FOR FARM WORK (1971) VARY FROM PESOS"
1293 PRINT " 2.5 to PESOS 4.5 DEPENDING ON LOCATION AND SEASON."
1295 PRINT
1300 PRINT "      3.  COST OF SEED."
1302 PRINT "  SEEDS ARE USED AT THE RATE OF 1 CAVAN PER HA. OF FARM"
1303 PRINT " QUALITY SEED MAY COST AS MUCH AS PESOS 75 PER CAVAN (1971)."
1304 PRINT " ORDINARY SEED COSTS COSTS 19 TO 25 PESOS."
1305 PRINT
1310 PRINT "      4.  COST AND AMOUNT OF NITROGEN FERTILIZER."
1312 PRINT " UREA IS THE CHEAPEST FORM OF NITROGEN.  BY WEIGHT IT HAS"
1313 PRINT " 45 PERCENT N. A BAG OF UREA WEIGHS 50 KG.; AND COSTS BETWEEN"
1314 PRINT " PESOS 20 AND 26 (1971)"
1315 PRINT
1320 PRINT "      5.  METHOD OF CROPLAND PREPARATION."
1322 PRINT "  USE OF THE CARABAO IS TRADITIONAL BUT MANY FARMERS TODAY"
1323 PRINT "  ARE HAVING THEIR FIELDS CUSTOM PLOWED BY LARGE TRACTOR."
1324 PRINT " ADVANTAGES OF THIS ARE SPEED AND BETTER WEED CONTROL."
1325 PRINT
1330 PRINT "      6.  METHOD OF WEEDING AND HERBICIDE APPLICATIONS."
1332 PRINT " WEEDING TOO HAS TRADITIONALLY BEEN DONE BY HAND."
1333 PRINT " THE USE OF HERBICIDES IS A RECENT INNOVATION."
1335 PRINT
1340 PRINT "      7.  METHOD OF THRESHING."
1341 PRINT " WITH INCREASED YIELDS MANY FARMERS ARE HIRING CUSTOM MACHINE"
1342 PRINT " THRESHING RATHER THAN STICKING WITH THE OLD HAND METHOD."
1345 PRINT
1350 PRINT "      8.  MARKET VALUE OF ROUGH RICE."
1352 PRINT " VARIES WITH VARIETY, QUALITY AND SEASON.  AVERAGES (1971)"
1353 PRINT " ABOUT 20 PESOS PER CAVAN (.43 PESOS PER KILOGRAM)"
1360 PRINT
1370 PRINT
1380 PRINT
1390 PRINT "           TEAR OFF HERE AND KEEP FOR REFERENCE"
1400 PRINT "---------------------------------------------------------"
1410 PRINT
1420 PRINT
1421 PRINT
1422 PRINT
1430 PRINT
1440 PRINT
1450 PRINT
1460 PRINT
1470 PRINT
1480 PRINT
1490 PRINT
1500 PRINT "
1510 PRINT "WHICH FACTORS DO YOU WISH TO CHANGE";
1520 IF B$<>" " THEN 1560
1530 PRINT "(INPUT '0'  (ZERO)  IF"
1540 PRINT "YOU DESIRE NOT TO CHANGE ANYTHING.  OTHERWISE INPUT NUMBERS"
1550 PRINT "CORRESPONDING TO THE STATEMENTS ABOVE)";
1560 LINPUT C$
1570 IF C$="0" THEN 2000
1580 IF B$<>" " THEN 1650
1590 PRINT
1600 PRINT "IF ASKED FOR MORE THAN ONE FACTOR, ENTER THEM ALL"
1610 PRINT "ON ONE LINE, SEPARATED BY COMMAS IN THE ORDER REQUESTED."
1620 PRINT "IF YOU DESIRE TO LEAVE ONE OR MORE FACTORS THE SAME AS"
1630 PRINT "THOSE IN THE FILE, ENTER 'SAME' AS THE DATA."
1640
1650 CHANGE C$ TO C
1660
1670 FOR I=1 TO C(0)
1680 IF C(I)<ASC(1) THEN 1730
1690 IF C(I)>ASC(8) THEN 1730
1700 LET A=C(I)-ASC(0)
1710 ON A GOTO 10000, 11000, 12000, 13000, 14000, 15000, 16000, 17000
1720
1730 NEXT I
1740
1750
1760
2000' YIELD AND MAN-HOUR COMPUTATION PER HECTARE.
2010 LET C=1
2020
2030' SEEDBED PREPARATION.
2040 LET H1-4*6
2050
2060' LAND PREPARATION
2070 IF U$="CARABAO" THEN 2100
2080 LET H2=26.8
2090 GOTO 2110
2100 LET H1 = H1 + 96
2110
2120' FERTILIZER APPLICATION.
2130 IF W1=0 THEN 2170
2140 LET D1=16
2150 LET N=.45*W1     'AMT. ELEMENTAL NITROGEN IN FERT.
2160 LET C=C*FNA(N)
2170
2180' TRANSPLANTING -- 18 MAN DAYS
2190 LET D2 = 18 * 8
2200
2210' WEEDING
2211 PRINT
2228 IF T<>0 THEN 2250
2230    LET F = .90    'NO WEEDING
2240 GO TO 2630
2250 IF T< >1 THEN 2290
2260    LET F = 1.0    '1 HAND WEEDING
2270    LET D3 = 125
2280    GO TO 2630
2290 IF T < >  2 THEN 2330
2300    LET F = 1.1     '1 ROTARY WEEDING
2310    LET D3 = 60
2320    GO TO 2630
2330 IF T < > 3 THEN 2380
2340    LET F = 1.2    '1 APPLICATION OF HERBICIDE
2350    LET D3 = 8
2360    LET K4 = 35
2370    GO TO 2630
2380 IF T < > 11 THEN 2415
2390    LET F = 1.15    '2 HAND WEEDINGS
2400    LET D3 = 200
2410    GO TO 2630
2415 IF T = 12 THEN 2430
2420 IF T  < > 21 THEN 2460
2430     LET F = 1.15    '1 ROTARY AND 1 HAND WEEDING
2440     LET D3 = 165
2450     GO TO 2630
2460  IF T < >22 THEN 2495
2470      LET F = 1.2     '2 ROTARY WEEDINGS
2480      LET D3 - 120
2490     GO to 2630
2495  IF T = 13 THEN 2510
2496  IF T = 32 THEN 2510
2500  IF T < > 31 THEN 2550
2510     LET F = 1.25    'HERBICIDE AND 1 HAND WEEDING
2520      LET D3 = 83
2530     LET K4 = 35
2540    GO TO 2630
2550 IF T < > 33 THEN 2600
2560     LET F = 1.3    '2 APPLICATIONS OF HERBICIDE
2570     LET D3 = 16
2580     LET K4 = 75
2590    GO TO 2630
2600  LET F = 1.02
2610  LET D3 = 125
2620  LET K4 = 50
2630 IF T1<20 THEN 2700
2640 IF T1<29 THEN 2665
2645 PRINT "YOU WAITED TOO LONG TO START THE WEEDING.  YOU HAVE WASTED"
2650 PRINT "YOUR TIME AND YOUR LABOR.  TOUGH LUCK!"
2655     LET F = .80
2660     GO TO 2700
2665 PRINT "YOU HAVE WAITED SO LONG TO START THE WEEDING THAT IT IS"
2670 PRINT "ONLY PARTLY SUCCESSFUL.  BETTER LUCK NEXT TIME."
2675     LET F = .90
2700  LET C = F * C
2770
2780' PESTICIDES
2790 IF B$<>" " THEN 2890
2800 PRINT
2810 PRINT
2820 PRINT "RICE STEM BORER IS A VERY COMMON INSECT PEST. LOSS OF CROP"
2830 PRINT "MAY BE ANYWHERE FROM 0% to 15% IF INSECTICIDE IS USED"
2840 PRINT "AS SOON AS INFESTATION IS DISCOVERED (DEPENDING UPON DEGREE"
2850 PRINT "OF INFESTATION.)  IF INSECTICIDE IS NOT USED, LOSSES"
2860 PRINT "MAY RUN AS HIGH AS 30%.  ON A SLIDING SCALE FROM 0 TO 10:"
2870 PRINT
2880 PRINT "0 (NONE)................5 (AVERAGE..............10 (SEVERE)"
2890 PRINT
2892 LET R = INT (RND * 10)
2900 PRINT "THE DEGREE OF INFESTATION THIS YEAR IS ";R
2920 PRINT
2930 PRINT "DO YOU DESIRE TO APPLY INSECTICIDE";
2940 INPUT R$
2950 IF R$="YES" THEN 3000
2960 IF R$="NO" THEN 2990
2970 PRINT "YES OR NO";
2980 GOTO 2940
2990 LET K3 = 0
2992 LET D4 = 0
```

```
30240 IF B2$="YES" THEN 30270
30250 PRINT "6. WEEDING METHOD IS 'HAND'."
30260 GOTO 30280
30270 PRINT "6. WEEDING METHID IS "T
30280 PRINT "   WEEDING IS DONE "T1" DAYS AFTER TRANSPLANTING."
30290 PRINT "7. THRESHING DONE BY "S$
30300 PRINT "8. PRICE OF ROUGH RICE IS "P" PESOS/KG."
30310 PRINT
30320 LET B2$=" "
30330 RETURN
57110
57120
57130
99999 END
```

Issue:	Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	Economic Development: The Quest for Material Well-being.
Title:	"Economic Development: The Market Place."
Descriptor:	Audio-Visual-Tutorial methods are used to demonstrate the learning of Market Place Concepts.
Discussion Leader:	Benjamin F. Richason, Jr., Department of Geography, Carroll College, Waukesha, Wisconsin.

* * * * *

"Economic Development: The Market Place"

The purposes for introducing AVT work are to improve the content of the beginning college course in geography; to provide the necessary relevance in terms of both content and teaching strategies; to provide flexibility in class scheduling; to promote independent learning; and to provide a course which would allow all students to compete favorably regardless of their high school preparations, cultural differences, or learning abilities.

DEMONSTRATION.

Demonstration of the AVT method in geography will be as follows:

1. Discussion of the procedure:
    a) Procedure followed by students.
    b) Role of the instructor.
    c) Role of laboratory assistants.
    d) Discussion of the various parts of the AVT course:

        (1) Integrated lecture-laboratory independent study session.
        (2) Collateral reading sessions.
        (3) Discussion-question sessions.
        (4) Self-test sessions.
        (5) Unit examination sessions.

2. Expected results from an AVT course in geography:
    a) Student performance.
    b) Student attitudes.
    c) Instructor performance and attitudes.
    d) Administration attitudes.

3. Hardware for the AVT course:
    a) Independent study booths.

b) Visual and sound equipment.
c) Extra visual materials.

4. Preparation of the AVT course:
    a) Manuscripts for the exercises.
    b) Recording the exercises.
    c) Duplicating the exercises.
    d) Illustrating the exercises.
    e) Testing procedures.
    f) Evaluation procedures.

5. AVT exercise demonstration
    ECONOMIC DEVELOPMENT: The Market Place.

6. Group input.

The distinctiveness of the AVT method is that the introductory geography course is totally committed to independent audio-visual learning. The entire course is contained on tapes, slides, and movies. The student comes to the AVT laboratory on an unscheduled basis at those times, and remains during those intervals which he finds most convenient in terms of his own schedule, alertness, and attention span. All of the materials necessary to study and understand the assignments are present in the study carrels or in the demonstration area when the student arrives in the laboratory.

The AVT method of learning makes possible the repetition and review of all material. Each step of the work is illustrated by slides. The slides also serve the purposes of chalkboard work and laboratory demonstrations. Emphasis is placed on the self-reliance of the student to learn independently. If the student has questions on course content, he may take them to a laboratory assistant, to the instructor, or to the weekly discussion-questions session.

RESULTS:

Student performance and attitudes in the AVT course have been analyzed for a period of 5 years. During that time, the course contained 40 percent more content material per semester than as previously taught. The average time spent in the AVT laboratory per week per student has been 3 hours 47 minutes.

Students have performed proportionally to the time spent in the AVT laboratory. Students who scored A on examinations spent an average of 4 hours 11 minutes per week in the AVT booths; students who scored B, 3 hours 39 minutes; students who scored C, 3 hours 13 minutes; students who scored D, 2 hours 52 minutes; and students who failed examinations, 1 hour 56 minutes.

Student attitude response to the AVT method in geography has been favorable. On the average about 54 percent of each class rated the course as either the best course, or among the best three courses they had taken in college. Over 85 percent of the students have said they thought the AVT method of learning was superior to the traditional lecture-laboratory course.

Issue:	Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	Economic Development: The Quest for Material Well-Being.
Title:	"Qualification of Alternatives in Water Resources Management."
Descriptor:	This program has a dual objective: to develop individuals who are capable of integrating technological skills and social factors in the civil decision processes; and to demonstrate, through innovative applications of the relevant techniques, the utility of considering alternative courses of action in ways which take advantage of currently available analytic and computational tools. Individuals from the hard sciences and the social sciences work together as tutorial teams on the solution of realistic, multidisciplinary civil decision problems. The tutorial teams constitute the major educational mechanism of the program. The primary aim of the required conventional coursework is to permit the students to acquire competence in fields outside their previous major background. The program is jointly funded by the Ford Foundation and the University of Arizona. It is a continuing program of study.
Discussion Leader:	Theodore G. Roefs, Hydrology and Water Resources Office, University of Arizona, Tucson, Arizona.

* * * * *

A Program For Civil Decision: Quantification of Alternatives in Water Resources Management.

Intuition about the unfamiliar is scarce. Since weapons systems evaluation and defense decisions have had to be made in frameworks in which there was little, if any, experience, intense efforts at quantification using all the available analytic and computational tools were and are being made. The same motivation did not exist in the field of social and civil decision making. Further, for a time, social and civil problems were not regarded as being as critical in nature as defense problems. Issues were resolved largely by debate among contending groups, although certain primitive quantification of alternatives were being done. Intuitively developed action programs are still being offered in the civil and social management field but there is now less satisfaction with problem solutions that tend to create still more problems. Further, there is now little doubt that civil decisions can be very critical and that simple, narrow quantifications of alternatives can produce misleading results.

An opportunity to attempt to remedy this situation exists. That opportunity is in water resources planning and administration. Recent research has resulted in a number of significant gains in the description of the underlying physical processes with both deterministic and stochastic models. A long history of economic analysis of alternatives exists. Useful management models are beginning to be defined. What is currently needed is a broadening of the economic analysis and the inclusion of social factors in the analytic process. There is a large enough knowledge base so that an experimental inter-disciplinary education program in this area can serve as a guide for more general future civil decision education programs.

This program has a dual objective: to develop individuals who are capable of integrating technological skills and social factors in the civil decision processes, and to demonstrate, through innovative applications of relevant techniques, the utility of considering alternative courses of action in ways which take advantage of currently available analytic and computational tools. There will be an explanation in the session of methods of selecting students. In addition, the curriculum developed to broaden the educational experiences of Ph.D. students will be examined.

Instead of course work beyond our basic curriculum skeleton multidisciplinary student tutorial teams with a common interest in a civil decision problem are assembled. The tutorial teams are designed to be the primary educational tool. Advanced topics in each of the disciplines involved are addressed in the context of the problem under consideration. The student most competent in that discipline, together with the appropriate faculty members, conduct tutorials in that area. Each student will participate in at least two tutorial teams during his period of residence. Instead of the usual independent doctoral research either: (1) team leadership on a problem judged to be of average difficulty, or (2) participation in a team which successfully solves a complex, realistic civil decision problem will be required. Each tutorial team is advised by a faculty member who has responsibility for bringing the talents of other faculty members to bear as required. A faculty member responsible for a tutorial team devotes at least one-half of his time to advising, tutoring, and monitoring the progress of that team.

The team produces, in addition to working papers and formal publications as appropriate, a joint report. The joint report will be the major product of the tutorial team. In order to satisfy formal dissertation requirements, students who are judged to have contributed sufficiently to the work of the team will be asked to submit a subset of the team report as a doctoral dissertation. Students outside the Water Resources Administration program will be welcome to participate in the tutorial teams if they have the required interdisciplinary background.

Special note should be taken that the innovative application of existing techniques to problems now being solved intuitively or not being defined at all are attempted. New techniques in any one highly specialized field of endeavor are not sought. For instance, new operations research algorithms will not be sought; rather the innovative application of existing techniques to realistic civil decision problems will be made. We seek to justify this approach by observing the recent history of water resources system analysis. New ideas in queuing theory, decomposition theory, and statistical analysis have been developed through the examination of water resource problems over the last twenty years. Yet current practice in agencies with water resource system decision responsibilities is only now beginning to progress. What is needed is not more mathematical development but the application of existing techniques to real problems. In order to educate people who will be able to integrate analytic techniques and social factors in a multidisciplinary environment, the University must do more than solve simplified problems in new ways. It must undertake demonstration studies on problems of the scale and complexity encountered in realistic civil decision analysis. Such studies will serve to produce future administrators conversant with analytic technology and help create the environment in the action agencies within which such people can be effective.

Students are oriented toward both substantial and facile use of computer capability. This is required in order to teach students large scale application.

Student tutorial-research teams address a variety of issues. One such issue might be the structuring of a relationship between national goals and water resource project outputs. For purposes of discussion, without any claims to be authoritative or exhaustive, four national goals might be listed: national income maximization, income equity, quality of life, and preservation of the environment. Of these four, only national income maximization is currently considered in even a semi-explicit way in water resources project analysis and management. An attempt to examine quality of life, for example, might result in a listing of inputs to that goal such as population density, type of housing, opportunity to engage in productive activity, and travel time required by a particular life style. Objectives of such a study might be to determine coefficients relating inputs to goals and water resource project outputs to goal inputs.

This question might also be addressed in an historical vein, e.g.; was the development of Los Angeles related to an aggressive water importation policy; if so, is the existence of Los Angeles beneficial from the viewpoint of national goals? Standard economic efficiency analyses would have ruled out most of the water importations that were made.

Standard economic efficiency models used in benefit-cost analysis characterize benefits and costs as primary and secondary or direct and indirect. Quite frequently secondary benefits and indirect costs are either uncounted or incompletely counted. One of the most currently talked about examples of an indirect cost is environmental pollution. There is now little argument that, although this cost is indirect, it is very real. An example of a secondary benefit is the economic activity in an area which supports a basic industry. Such secondary benefits are widely held to be merely a transfer of support activity from one area to another. Yet support activity may be more expensive in one area than another. In congested areas, transportation of employees can be costly in both economic and social terms. In underpopulated areas the size of a market may make the distribution of goods and services expensive. Thus, the transfer of economic activity might be beneficial to both areas.

A tutorial team might attempt to trace all the costs and benefits associated with locating a water consumptive industry or water quality consumptive industry in one area or another. The same team, or another, might attempt to trace effects which are not quantifiable economically.

The issue might also be framed in still another way: what are the economic costs and environmental effects of locating an additional half-million people in New York City, Phoenix, or a new town?

A tutorial team might also address the issue of whether or not it is possible to extend Leontief input-output model concepts. Conventional Leontief models are two-dimensional and include only monetary flows explicitly. It may or may not be useful and practical to extend such a coherency preservation model to non-monetary flows.

Still another possible area for tutorial team concentration is the specialization of Herman Kahn's "framework for speculation" procedures from defense and general planning. For example, projections of continued growth in water-associated outdoor recreation are based on explicit projections of population growth and implicit speculations that: increasing use of outdoor areas does not decrease attractiveness, and consequently does not act as a self-damping phenomenon; that adequate transportation systems can be provided; and that life styles do not change as population concentrates in an urban area. All these implicit speculations may be true, but they should be examined by describing the change in type or degree of satisfaction gained as use becomes more intense; the kind and cost of the requisite transportation subsystem; and possible time budgets for future urban residents.

The above examples are intended to give some idea of the kind of problems tutorial teams might study. Some or all of them may be of too large a scope. A legitimate study might well be the disaggregation of one of the issues listed into smaller issues.

A program in Water Resources Administration has been developed at the University of Arizona as an outgrowth of a successful program in hydrology. The Water Resources Administration program is aimed at training professionals to integrate social and physical sciences through the use of recently developed techniques in econometrics and operations research. The current faculty has background in the physical sciences, mathematical analysis, computer use, government practice, and classical economics and a strong interest in innovative application of analysis techniques to water resources decision problems.

C-3-205

Issue:	Socialization: Frontiers, Melting Pots, and Other Myths.
Topic:	Migration: Mayflowers Old & New.
Title:	"Where Will They Move Tomorrow?: Site changes in Population Clusters of White, Non-White and Cuban People in the City of Miami."
Descriptor:	Building a new life in Miami, former Cuban refugees revitalized a decaying downtown. As more Cubans arrived, they pushed on, gradually forcing out those who had prior occupancy. The use of this situation and concepts of intra-urban movement will be explored in a participatory session. Following this inductive experience, the respondents will extrapolate from the session its geographic concepts and its affective aspects, concluding with a rationale for behavioral strategies at the introductory level.
Discussion Leader:	Dixie Pemberton, Virginia Polytechnic Institute and State University, Blacksburg, Va.

* * * * *

"Where Will They Move Tomorrow?"

A. Goals

1. The behavioral strategy has as its objectives:
    a. Profs to be aware and perhaps at ease with methods other than lecture for introducing topical study
    b. Situation for exchange of ideas among those present

2. To provide data on site changes in population clusters of white, non-white and Cuban people in Miami so that
    a. Hypothesis can be attempted: areas to change
    b. Concepts on inter-urban migration can be explored, i.e.
        1. Household activity opportunity set
        2. Household interaction set
        3. Vacancy market
    c. Problems for study can be defined -(student assignments)

B. Strategy for the session

1. Arrange room to represent 3 communities, white, non-white, and Cuban.

2. Distribute packets of data to each community
    a. Tables on census data - Planning districts #9, #13, #3
    b. Maps
        1. Miami
        2. Non-white '60
        3. Non-white '65
        4. % change
        5. White '60
        6. White '65
        7. % change
        8. Cubans '65

c. Fact sheets on Cubans

3. Tasks for each group
   a. Recorder Sheet: asks a participant to write down the following:

      1. How the group attacks the problem, randomly or systematically.
      2. Assumptions made by the group, i.e.: availability of income determines moving or, people shop at stores nearest them, etc.
      3. To turn these sheets over to the respondents.

   b. The rest of the group uses the tables and maps to:

      1. Delineate household interaction sets, an amalgamation of space preferences and opportunity sets for its group.
      2. Define problems of conflict its group and area will have in opting for additional space. Consider vacancy market, garment industry, vested interests, attitude and value sets, and land values and income.

C. Evaluation session by John Ball and Duane Knos followed by audience participation.

TASKS FOR EACH COMMUNITY

I. Examine the maps and tables briefly
II. Rapid-read the newspaper clippings and data
III. Using this information:

   A. Delineate household interaction sets, an amalgamation of space preferences and opportunity sets for your group.
   B. Define problems of conflict your group and area will have in opting for additional space. Consider vacancy market, garment industry, vested interests, attitude and value sets, and land values and income.

RECORDER'S SHEET

Directions: Observe the members of the group. Listen to their conversation. Who seems to be the LEADER? Is there a LEADER? How are the profs attacking the problem? Have they planned a strategy? Did a plan of attack grow out of trial and error? What sort of resources are they using? Their personal background: travel, TV, research, reading? Are the materials confusing? How are the profs handling any confusion? As you think about these things, jot a few notes down under the headings below. This will help you recall the necessary information for processing later.

CHECK THE FOLLOWING:

____
Number in the "Community"

Group Structure

_____authoritarian
_____democratic
_____rotating

Leadership

_____most of the time
_____some of the time

Problem Solving Task

Attacking problems

_____helter-skelter _____in the beginning
_____throughout laboratory

_____strategy or plan _____ in the beginning
_____ mid-session
_____ throughout laboratory

Resources: _____staff _____maps _____ data

Prof's personal background _____travel _____TV
_____research _____reading

_____most
_____some
_____few

superficial exploration of tasks _____ some of the time
_____ most of the time

_____most
_____some
_____few

in depth involvement in tasks _____some of the time
_____most of the time

Handling Confusion or Complexity or Boredom

_____no. of profs withdrawal, disinterest _____some of the time
_____most of the time

_____ no. of profs active high risk type of thinking _____some of the time
_____most of the time

_____no. of profs alert observer behavior but no participation _____some of the time
_____most of the time

Assumptions Being Made by the Group

Examples that might be jotted down here are:

- income is the determinant for moving
- people want to be with their own kind, etc
- anything reflecting theory, or bias

FILMED FROM BEST AVAILABLE COPY

C-3-208

RESETTLEMENT RE-CAP

A PERIODIC REPORT FROM CUBAN REFUGEE PROGRAM
FREEDOM TOWER, MIAMI, FLORIDA 33101
U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
SOCIAL AND REHABILITATION SERVICE

APRIL, 1970

THE SCORE
CUBAN REFUGEE PROGRAM
Month of March, 1970

Registrations ...	3,729
Since Jan. 1961..	367,813
Resettlements ...	2,480
Since Jan. 1961..	243,196

Small Boat Arrivals
Since June 1961:

Persons	10,907
Boats	1,298

Since January 1961

	REGISTERED	RESETTLED
USCC	246,415	154,035
IRC	76,367	50,422
CWS	40,680	35,940
HIAS	4,351	2,799

The relative-to-relative airlift from its start December 1, 1965 through March, 1970 brought 185,707 Cuban refugees.

Total arrivals in that period 202,306
Resettlements 148,288 or 73.3% of arrivals.

AIRLIFT ARRIVALS BY OCCUPATION AND AGE CATEGORIES
(December 1, 1965 - March 27, 1970)

OCCUPATIONS	
Professional, semi-prof. managerial	6.5%
Clerical & Sales	11.7%
Skilled	9.3%
Semi-skilled	3.6%
Service occupations	3.2%
Farm-fishing	1.7%
Children, students, housewives	[illegible]4.0%

AGES	
0-5	11.3%
6-18	22.8%
19-29	8.9%
30-39	19.4%
40-49	15.7%
50-60	10.5%
61-65	4.1%
Over 65	7.3%

HOW THE U.S. CUBAN REFUGEE PROGRAM OPERATES

through the Cuban Refugee Center, Miami, and other facilities of the Program, administered by the Department of Health, Education, and Welfare (HEW).

C-3-210

March 1969

ARRIVALS 3,500 TO 4,000 A MONTH

In the family reunion operation, a plane is dispatched without passengers to Varadero Beach Airport, Cuba, twice daily five days a week, and brings to Miami from 80 to 100 persons each flight, or between 3,500 and 4,000 refugees a month. After leaving the plane at the International Airport refugees are transported by bus to the nearby Refugee Reception Area, where they are seen by representatives of U.S. services: Public Health, Customs, and Immigration and Naturalization. Then refugees may register with the Cuban Refugee Program, for the benefits it provides.

Since the majority of those who arrive plan to join relatives in other parts of the U.S., they are welcomed to the accommodations of nearby Freedom House where they stay until transportation arrangements for them are completed. The smaller number of persons who join relatives in Miami stop a few minutes at Freedom House, where their relatives await a happy reunion with them before taking them into Miami.

With resettlement of refugees a principal Program objective, the downtown Center has operated since early 1961 when the Cuban Refugee Program was set up by Presidential directive. Top responsibility has been with the Secretary of Health, Education, and Welfare -- now Robert H. Finch.

RECORDING OF JOB OFFERS IN LOCAL COMMUNITIES URGED

Miami and Dade County are estimated to have about 125,000 Cuban refugees, most of them supported by the income from jobs, or from their businesses. The federal financial assistance rolls list about 15,500 individuals, most of them in advanced years, with health or other problems, and minors -- the unemployables. (In late 1962 the total receiving assistance was near 70,000).

The Saturday Evening Post June 16, 1962

Miami is a tourist center, and its economy is unable to accommodate the heavy flow of refugees. Of the 75,000 in the Miami area, about 27,000 (the figure represents employable individuals, but with dependents it would come to 54,000), are unemployed.

But the Government recently pledged to return them to Miami and pay their fares when it is possible for then to return to Cuba. As a result, and through the passage of time, the reluctance to resettle away from Miami has diminished.

WANT TO STAY

Shops, bustling with business, were first opened by exiles when "for rent" signs abounded in the then rundown area. As more Cubans arrived, they pushed on, gradually forcing out American establishments. The expansion continues.

PHILADELPHIA, PA.
INQUIRER

OCT 1 1967

Cuban Refugees Expect to Stay in United States

Miami, Fla., Sept. 30(AP). Cuban refugees, arriving in the United States at the rate of nearly 4000 monthly, are here to stay, says a University of Miami research team in a study.

The new report suggested that the refugee assistance program, which has cost U.S. taxpayers $350 million to date, might be scaled down.

EARLY RETURN DOUBTED

"The Cuban refugees as a group have lost much of their character as visitors awaiting a favorable opportunity to return to Cuba," said the study, prepared for the Health, Education and Welfare Department.

"On the whole, they seem to be losing conviction that an early change in circumstances will make return feasible."

The 200-page survey continued: "Many are accumulating vested interests in staying in the United States, which must be balanced against prospects in Cuba at the time of return.

"A precipitous exodus seems exceedingly remote under any circumstances."

EXODUS TO CONTINUE

The Government "has tended to regard the refugees as problems rather than opportunities," the report said. "Planning for the future should incorporate imaginative thinking concerning the economic and cultural contributions of which the Cubans are clearly capable."

U.S. NEWS & WORLD REPORT,
March 20, 1967

Three employes to 40. In 1960, when Raul and Jesus M. Gutierrez fled Cuba, Calmaquip was a small firm, employing three people. Their father, head of a big supply house in Havana, had helped set it up years before.

Today, instead of three people, Calmaquip employs 40. Of these, 30 are Cubans, 10 are from other Latin-American countries.

Best year so far was 1966, with 1.5 million dollars in sales, and Raul Gutierrez, the company president, expects sales to approach 3 million in 1967.

Calmaquip now is installing kitchens, incinerators, water pumps and other equipment in 11 luxury hotels being built in Latin America with Latin-American capital. Calmaquip also is handling the financing of some of the hotels.

At its new headquarters building in Miami, Calmaquip maintains permanent displays of American industrial equipment-and has three guest apartments for buyers from Latin America.

BUILDING LIFE

At least one in every four residents of Miami proper is a Cuban. In Greater Miami, the Cuban population approaches 250,000. About one-fourth of the new refugees remain here, the rest resettle throughout the United States. Some return to Miami later.

C-3-212

TROY, N.Y.
TIMES-RECORD

OCT 9 1967

AN ASSET TO MIAMI

It isn't often the United States gets rewarded for humanitarian effort. It happens so seldom that when such effort ends in success it is worth noting. The assimilation of Cuban refugees into the population of Miami and Dade County, provides such a success story.

A University of Miami study notes that 150,000 Cuban refugees from Castro, or half the total in the United States reside in the Miami-Dade County area. They have been assimilated without the social problems one might expect. The university study has been prompted to suggest federal aid for the refugee program can safely be cut. It also suggests there is no reason to consider a need for immediate resettlement of Cuban refugees landing in the Miami area. The latter course was considered necessary early in the program to ease assimilation problems.

Dade County's Unemployment rate is below the national level. The 2,000 doctors among the refugees have helped relieve the shortage of doctors in this country. Areas in Miami which were on their way to becoming blighted have been saved as Cubans launched business ventures and provided employment. Cubans are bearing their share of the burden of providing community services for all. Miami has become a truly bilingual city. The catalogue of benefits from the Cuban refugees goes on.

Since the Cuban refugee program was started in 1961 it has cost the United States 250 million. The money has been well spent. It is seldom we succeed in meeting the demands of humanitarianism and at the same time conferring benefits on the people and areas involved.

. . . .

ECONOMIC IMPACT

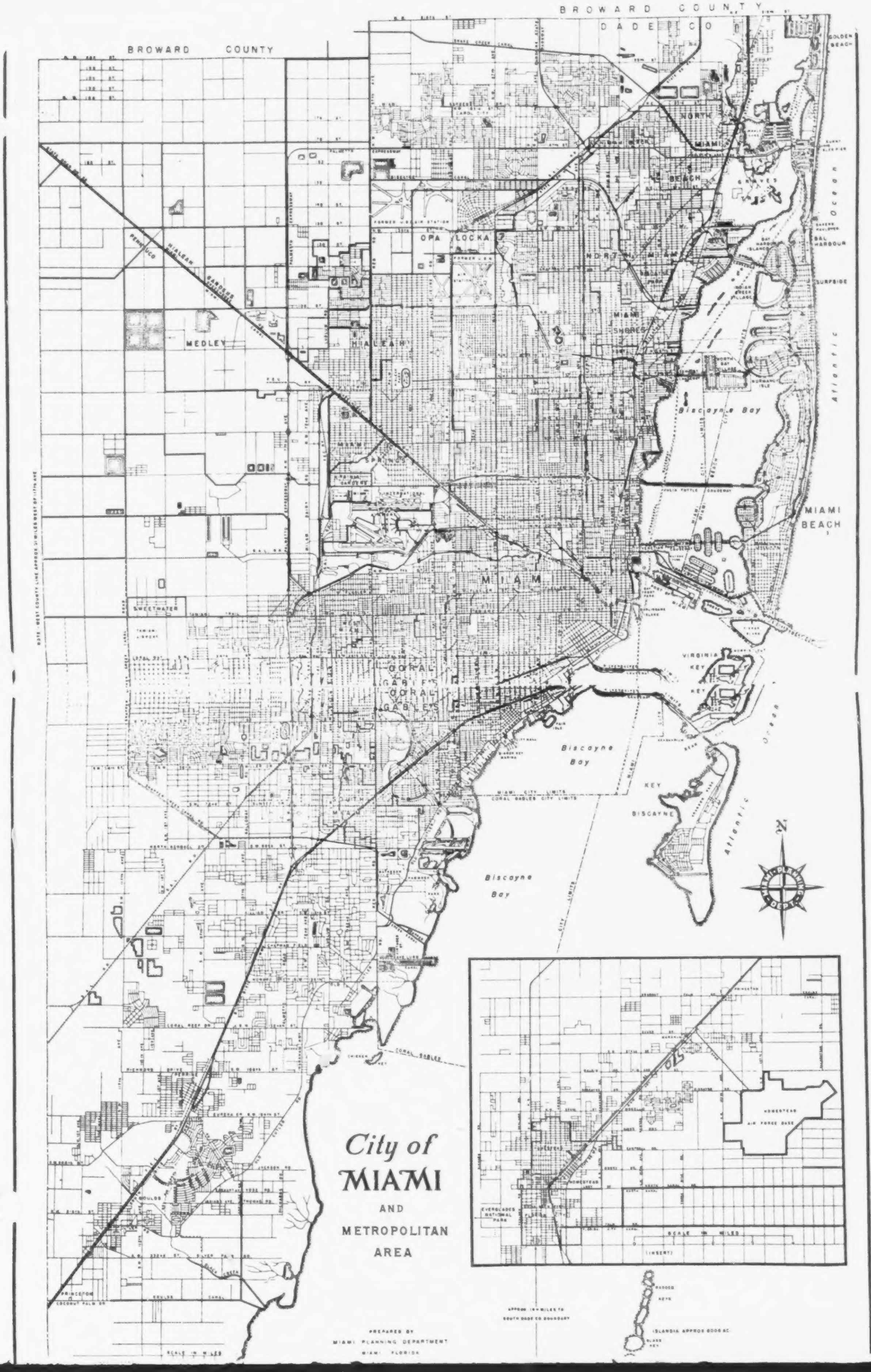
Perhaps the biggest impact of the Cubans on Miami has been in the economic field.

Miami's garment industry has jumped to second place in the nation, next to New York City's, thanks to availability of Cuban seamstresses while help is scarce and more expensive in other cities. Ninety percent of the Miami garment workers are Cubans. Some go to work a day after arriving.

More than one-third of the hotel and restaurant employes are Latins, mostly Cubans.

Just about every bank in Miami has a Latin vice president. Two Cubans, Carlos Arboloyn and Amado Vina are bank presidents.

C-3-213


BROWARD COUNTY
DADE CO
GOLDEN BEACH
NORTH MIAMI BEACH
OPA LOCKA
NORTH MIAMI
BISCAYNE PARK
BAL HARBOUR
SURFSIDE
MIAMI SHORES
MEDLEY
HIALEAH
HIALEAH GARDENS
PENNSUCO
MIAMI SPRINGS
Biscayne Bay
Atlantic Ocean
MIAMI BEACH
JULIA TUTTLE CAUSEWAY
INTERNATIONAL AIRPORT
SWEETWATER
TAMIAMI AIRPORT
MIAMI
WEST MIAMI
CORAL GABLES
VIRGINIA KEY
KEY BISCAYNE
MIAMI CITY LIMITS
CORAL GABLES CITY LIMITS
CITY LIMITS
Biscayne Bay
Atlantic Ocean
N
CORAL REEF DR
RICHMOND DRIVE
PERRINE
GOULDS
PRINCETON
COCONUT PALM DR
CHICKEN KEY
HOMESTEAD AIR FORCE BASE
HOMESTEAD
FLORIDA CITY
EVERGLADES NATIONAL PARK
SCALE IN MILES
(INSERT)
APPROX. 19 MILES TO SOUTH DADE CO. BOUNDARY
RAGGED KEYS
ISLANDIA APPROX. 6008 AC.
ELLIOTT KEY
SCALE IN MILES

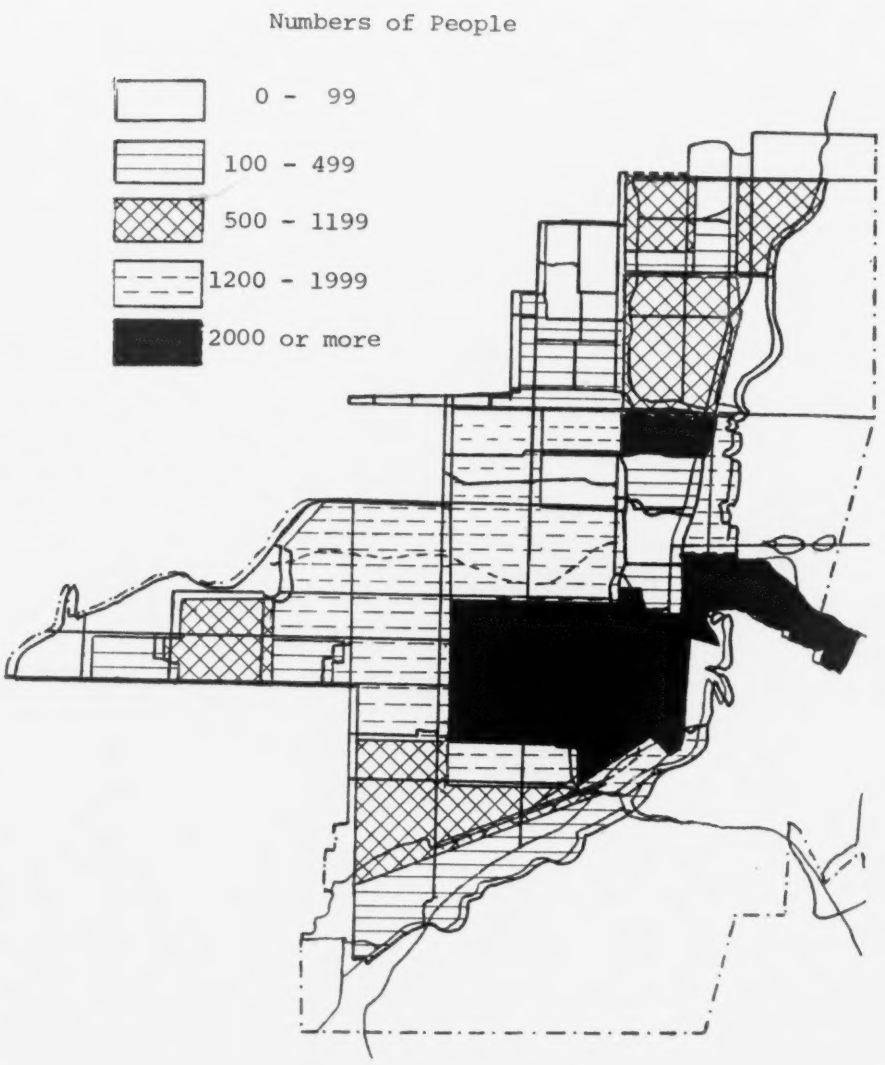
City of
MIAMI
AND
METROPOLITAN
AREA

PREPARED BY
MIAMI PLANNING DEPARTMENT
MIAMI, FLORIDA

222

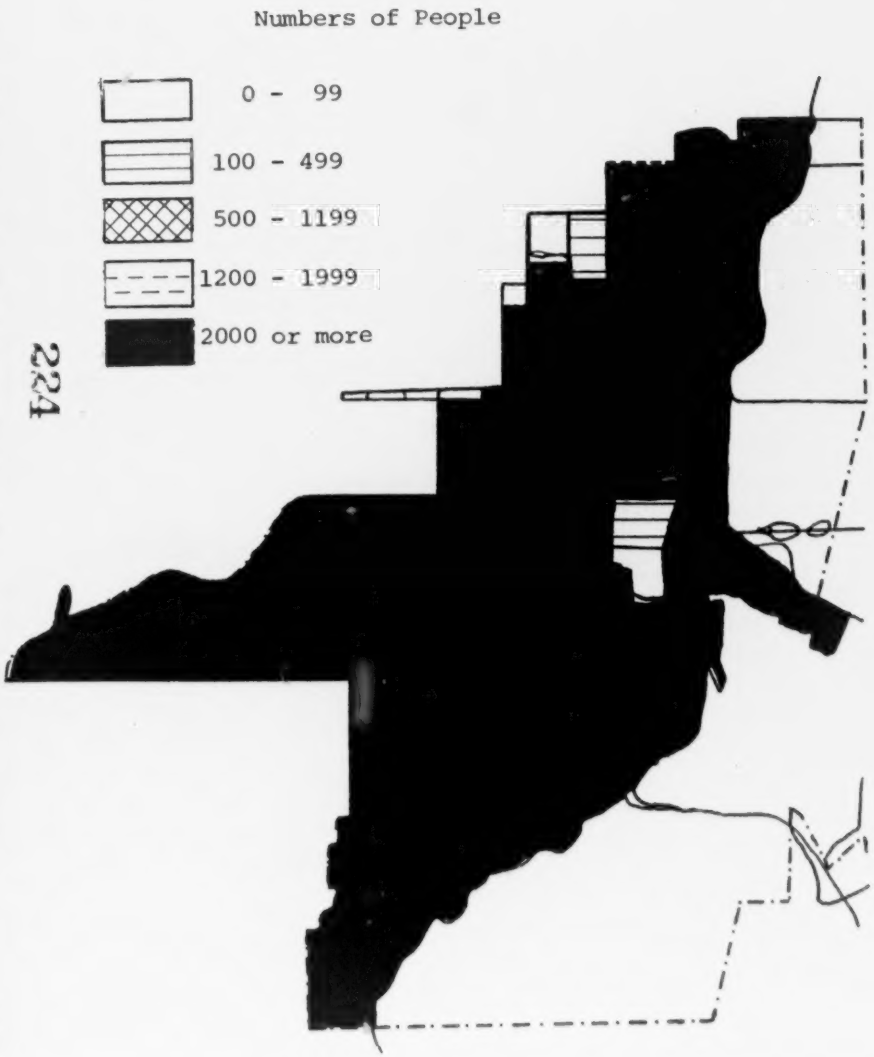
C-3-214

CUBAN POPULATION 1965


Numbers of People
0 - 99
100 - 499
500 - 1199
1200 - 1999
2000 or more

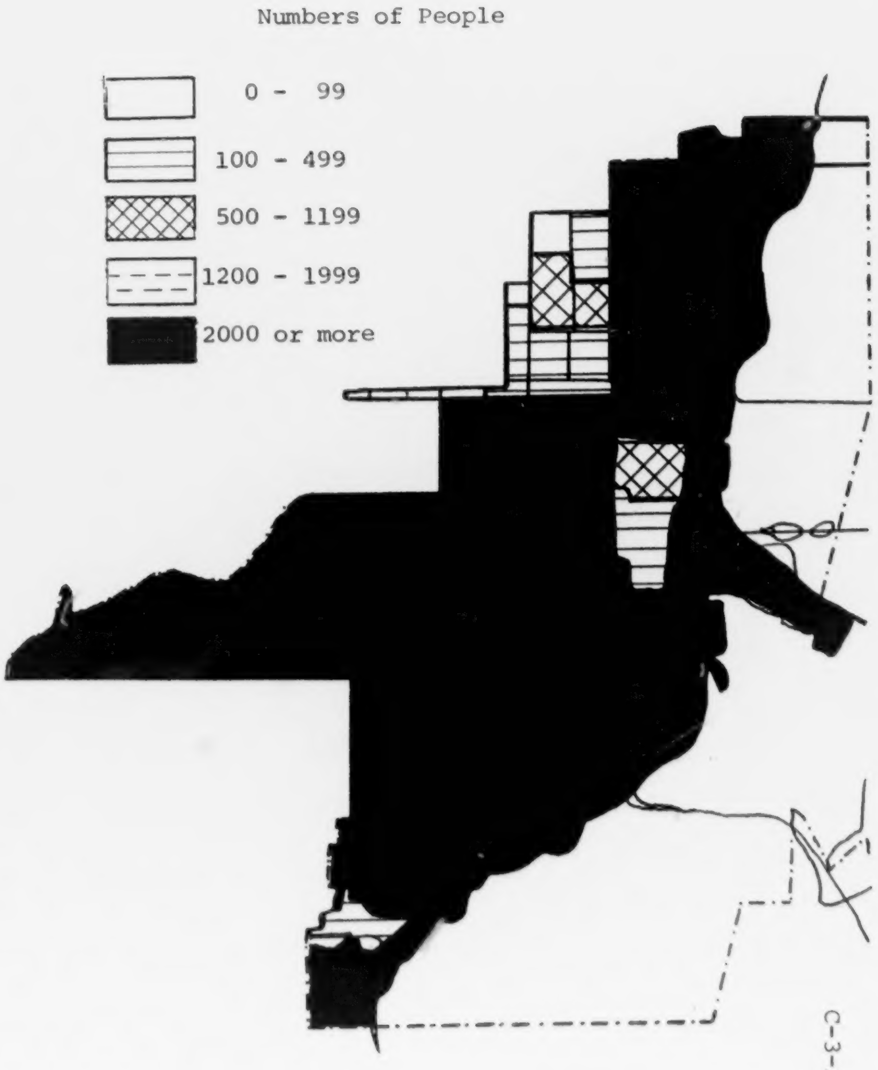
WHITE POPULATION

1960



Numbers of People
0 - 99
100 - 499
500 - 1199
1200 - 1999
2000 or more

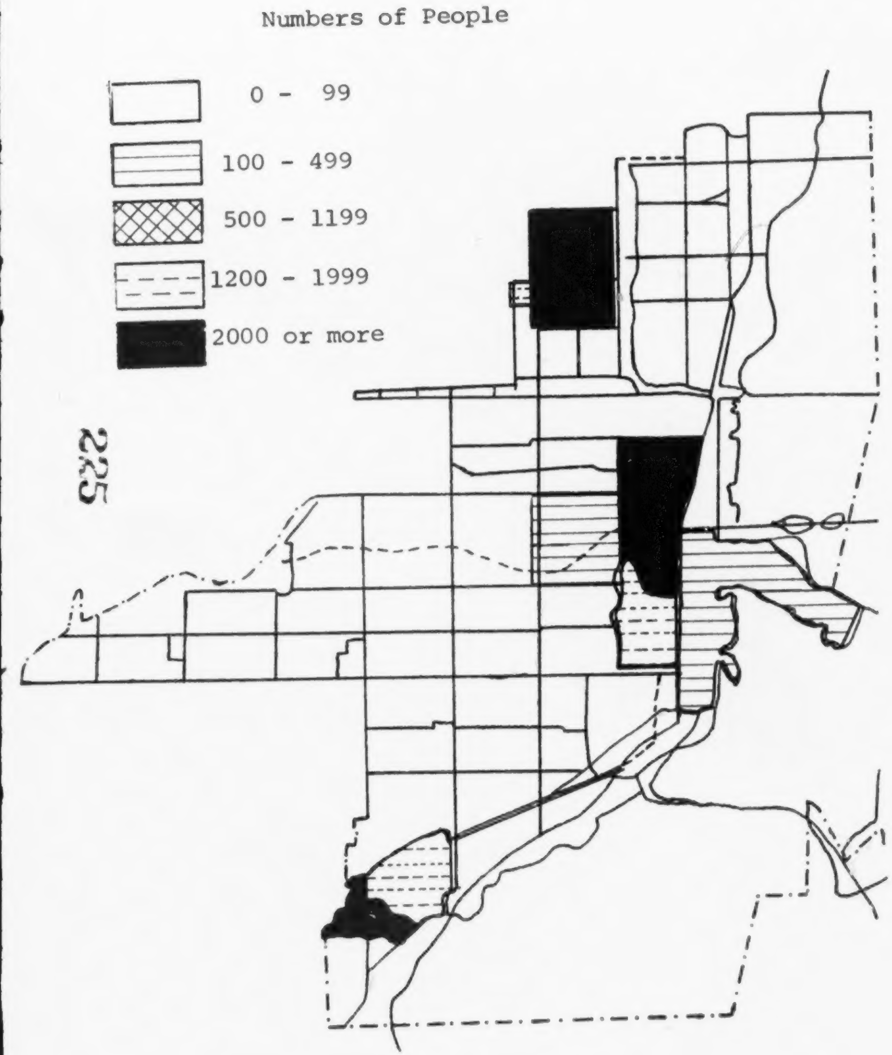
1965



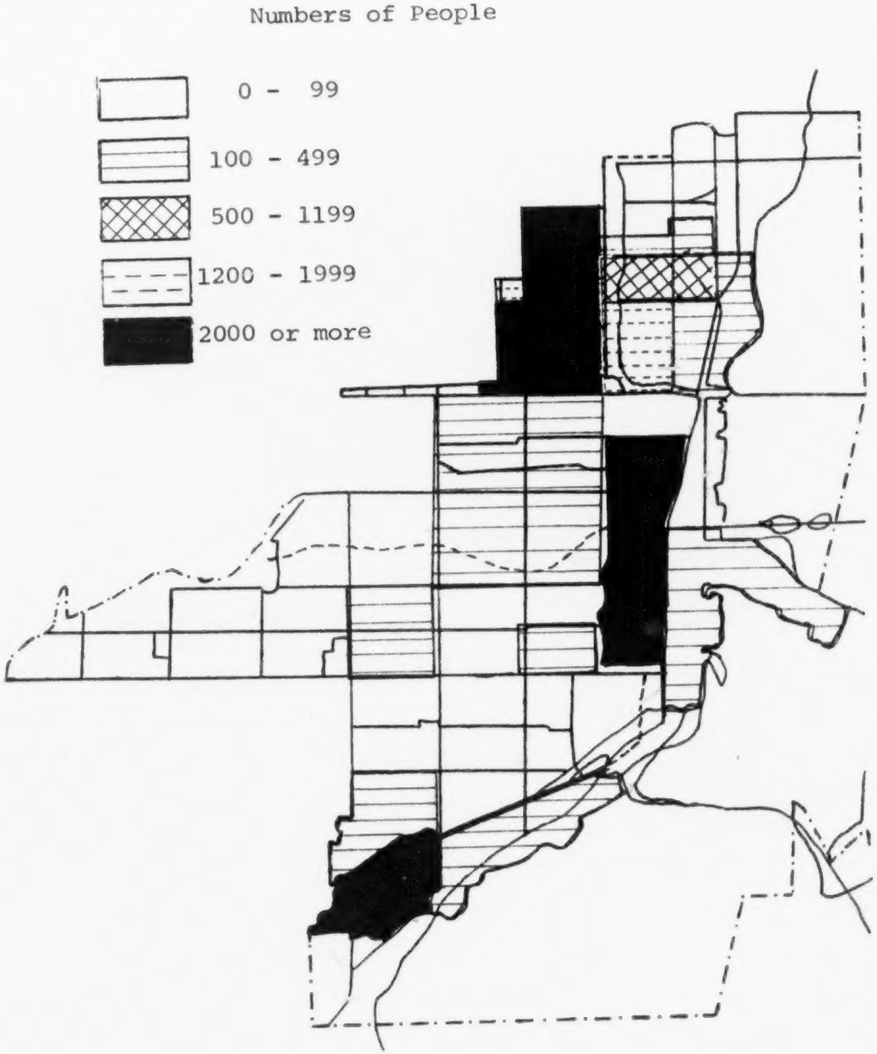
Numbers of People
0 - 99
100 - 499
500 - 1199
1200 - 1999
2000 or more

NON-WHITE POPULATION

1960


Numbers of People
0 - 99
100 - 499
500 - 1199
1200 - 1999
2000 or more

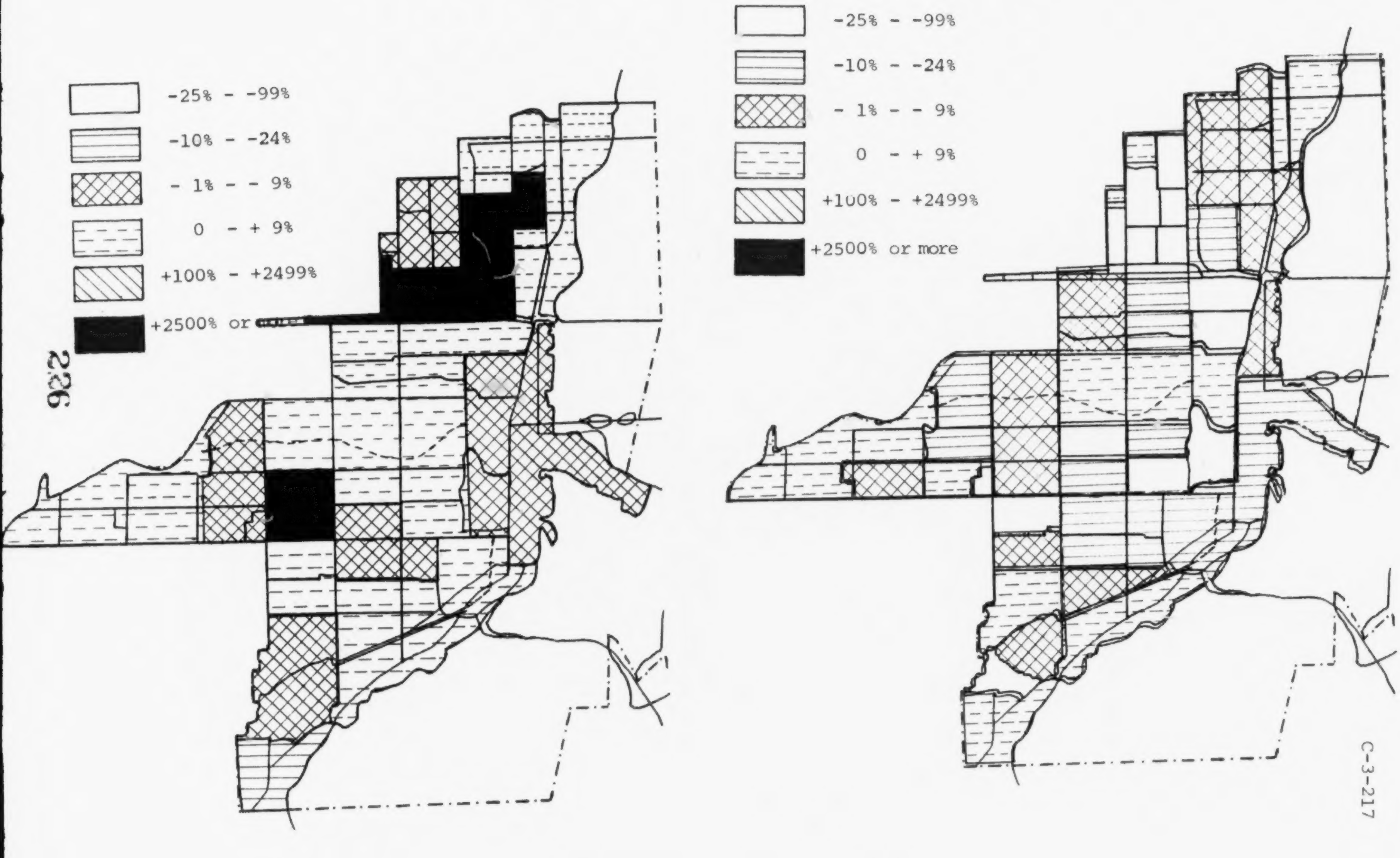
1965


Numbers of People
0 - 99
100 - 499
500 - 1199
1200 - 1999
2000 or more

PERCENT CHANGE IN POPULAT N 1960 - 1965

Non-White

White


-25% - -99%
-10% - -24%
- 1% - - 9%
0 - + 9%
+100% - +2499%
+2500% or
-25% - -99%
-10% - -24%
- 1% - - 9%
0 - + 9%
+100% - +2499%
+2500% or more

C-3-218

Issue: Socialization: Frontiers, Melting-Pots, and Other Myths.

Topic: Migration: Mayflowers Old and New.

Title: "Guatemala Population: Ladino or Indio."

Descriptor: Introduction:
The rapid rate of ladinoization or de-indianization is a dynamic cultural process in Guatemala. This process is a result of a large Indian population in pre-historic and historic times and the changes in occupation and relocation that are being forced upon them. As the Indians move out of their Highland villages they change their mode of dress, manner of speech and type of work. In so doing they lose their identity as Indios even though no change has been made in their ethnic background and physical characteristics. Using census figures from 1950 and 1964 the results of modernization and cultural conflicts can be demonstrated. As in other Latin American countries, the Guatemalans prefer to go to the cities and stay where they aggravate the problems of urban congestion and avoid the sparsely populated regions of their country.

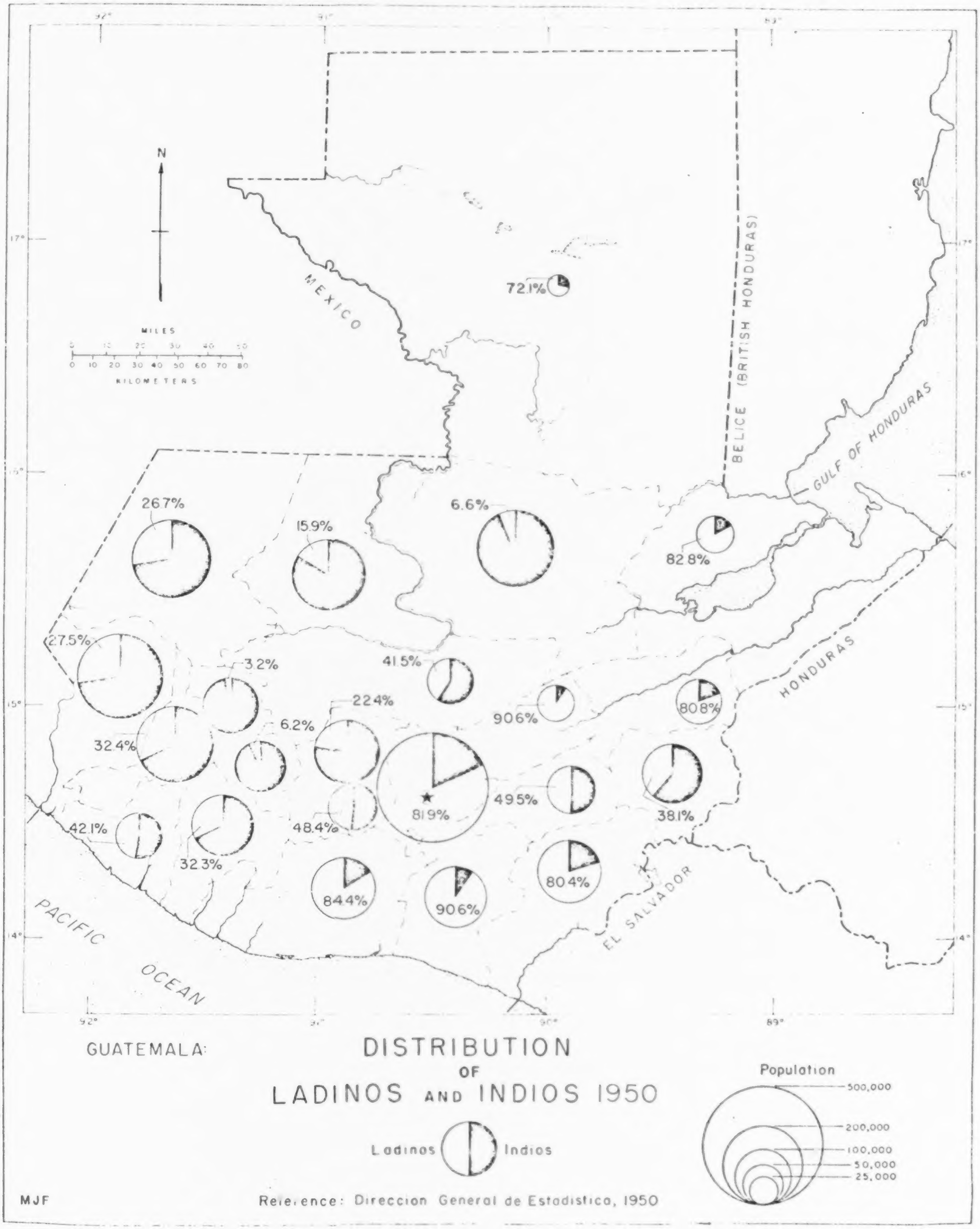
Discussion Leader: Melvin J. Frost, Arizona State University, Tempe, Arizona.

* * * * *

"Guatemala Population: Ladino or Indio."

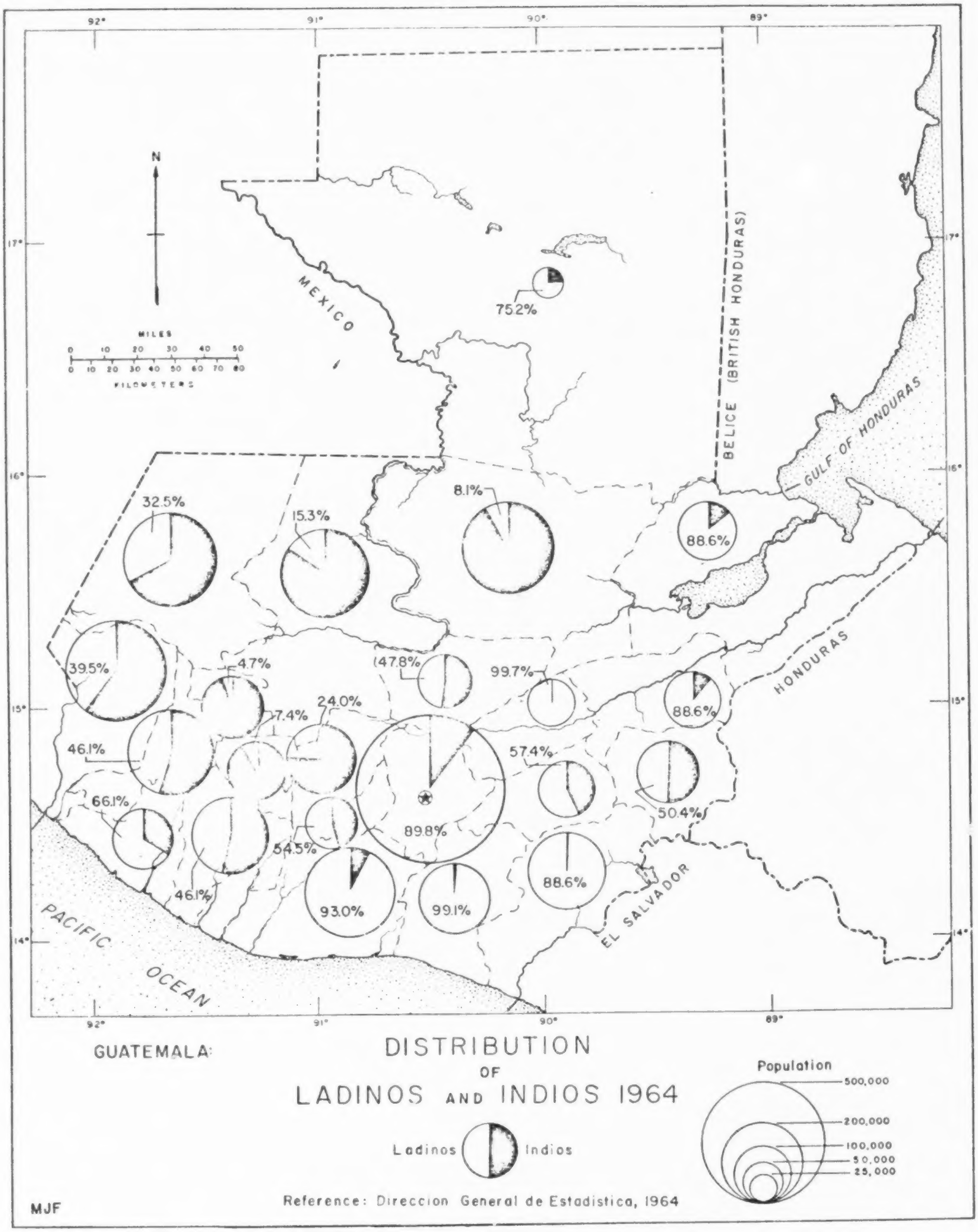
Objective: To emphasize the process of cultural change and the effects on the Indian population of Guatemala.

Approach:
Define the terms of Ladino and Indio as they are used in Guatemala.
Demonstrate with sketches or slides cultural differences.
Demonstrate with a transparency of Map 1 the characteristics of the population in 1950.
Demonstrate with a transparency of Map 2 the characteristics of the population in 1964.
Demonstrate with a transparency of Map 3 the changes in the Indios.
Demonstrate with a transparency of Table 1 the percent changes that have occurred.
Refer back to Map 3 and sketches, if necessary.
Evaluate by responses from the group. Emphasize the methods of teaching and interaction over content material.


N
MILES
0 10 20 30 40 50
0 10 20 30 40 50 60 70 80
KILOMETERS
92°
91°
90°
89°
17°
16°
15°
14°
MEXICO
BELICE (BRITISH HONDURAS)
GULF OF HONDURAS
HONDURAS
EL SALVADOR
PACIFIC OCEAN
72.1%
26.7%
15.9%
6.6%
82.8%
27.5%
3.2%
41.5%
32.4%
22.4%
6.2%
90.6%
80.8%
81.9%
49.5%
38.1%
42.1%
48.4%
32.3%
84.4%
90.6%
80.4%
GUATEMALA:
DISTRIBUTION
OF
LADINOS AND INDIOS 1950
Ladinos
Indios
Population
500,000
200,000
100,000
50,000
25,000
MJF
Reference: Direccion General de Estadistica, 1950

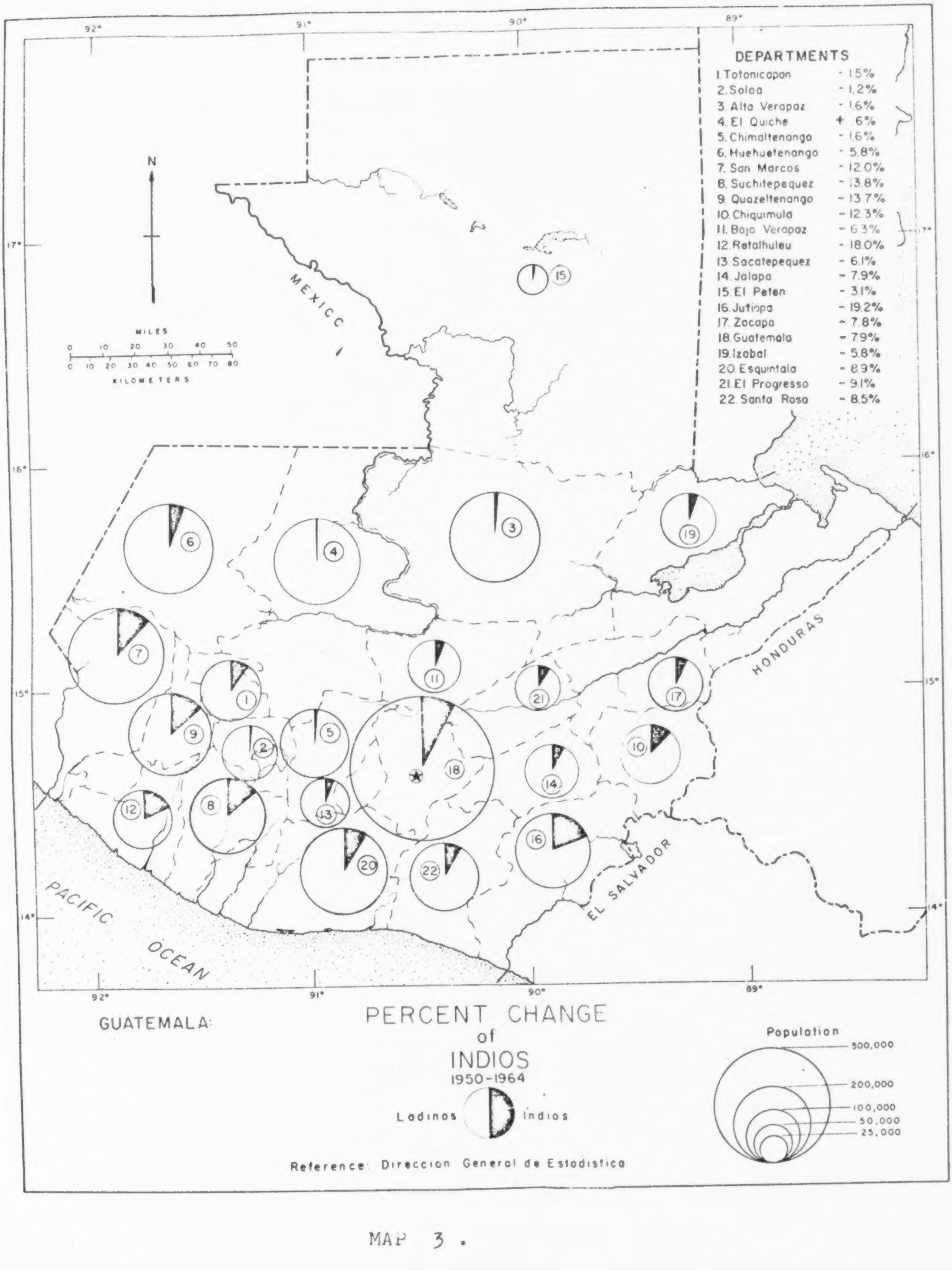
MAP 1.

C-3-220


92°
91°
90°
89°
17°
16°
15°
14°
N
MILES
0 10 20 30 40 50
0 10 20 30 40 50 60 70 80
KILOMETERS
MEXICO
BELICE (BRITISH HONDURAS)
GULF OF HONDURAS
HONDURAS
EL SALVADOR
PACIFIC OCEAN
75.2%
8.1%
88.6%
32.5%
15.3%
39.5%
4.7%
(47.8%
99.7%
88.6%
7.4%
24.0%
46.1%
57.4%
66.1%
50.4%
89.8%
54.5%
46.1%
93.0%
99.1%
88.6%
GUATEMALA:
DISTRIBUTION
OF
LADINOS AND INDIOS 1964
Ladinos
Indios
Population
500,000
200,000
100,000
50,000
25,000
Reference: Direccion General de Estadistica, 1964
MJF

MAP 2.

C-3-221


DEPARTMENTS
1. Totonicapon - 1.5%
2. Soloa - 1.2%
3. Alta Verapaz - 1.6%
4. El Quiche + .6%
5. Chimaltenango - 1.6%
6. Huehuetenango - 5.8%
7. San Marcos - 12.0%
8. Suchitepequez - 13.8%
9. Quazeltenango - 13.7%
10. Chiquimula - 12.3%
11. Baja Verapaz - 6.3%
12. Retalhuleu - 18.0%
13. Sacatepequez - 6.1%
14. Jalapa - 7.9%
15. El Peten - 3.1%
16. Jutiapa - 19.2%
17. Zacapa - 7.8%
18. Guatemala - 7.9%
19. Izabal - 5.8%
20. Esquintala - 8.9%
21. El Progresso - 9.1%
22. Santa Rosa - 8.5%
N
MILES
0 10 20 30 40 50
0 10 20 30 40 50 60 70 80
KILOMETERS
MEXICO
HONDURAS
EL SALVADOR
PACIFIC OCEAN
92°
91°
90°
89°
17°
16°
15°
14°
Ladinos
Indios
Population
500,000
200,000
100,000
50,000
25,000

GUATEMALA: PERCENT CHANGE of INDIOS 1950-1964

Reference: Direccion General de Estadistica

MAP 3.

Table I . Indian Population of Guatemala 1950 and 1964:
Percent Distribution by Departments[8,9,10]

	Departments	1950[2]		1964[3]		Percent Change
		Indios	Percent of total population	Indios	Percent of total population	1950 to 1964
1.	Totonicapan	96,138	96.8	135,880	95.3	- 1.5
2.	Solola	77,817	93.8	100,500	92.6	- 1.2
3.	Alta Verapaz	177,308	93.4	241,820	91.8	- 1.6
4.	El Quiche	147,094	84.1	216,320	84.7	+ 0.6
5.	Chimaltenango	94,243	77.6	123,060	76.0	- 1.6
6.	Huehuetenango	146,628	73.3	192,620	67.5	- 5.8
7.	San Marcos	168,540	72.5	198,840	60.5	-12.0
8.	Suchitepequez	84,252	67.7	97,800	53.9	-13.8
9.	Quezaltenango	124,473	67.6	143,320	53.9	-13.7
10.	Chiquimula	69,843	61.9	72,420	49.6	-12.3
11.	Baja Verapaz	38,776	58.5	50,040	52.2	- 6.3
12.	Retalhuleu	34,696	51.9	38,280	33.9	-18.0
13.	Sacatepequez	30,994	51.6	36,040	45.5	- 6.1
14.	Jalapa	38,004	50.5	42,340	42.6	- 7.9
15.	El Peten	4,431	27.9	6,900	24.8	- 3.1
16.	Jutiapa	27,249	19.6	840	0.4	-19.2
17.	Zacapa	13,359	19.2	11,260	11.4	- 7.8
18.	Guatemala	79,514	18.1	80,000	10.2	- 7.9
19.	Izabal	9,466	17.2	13,100	11.4	- 5.8
20.	Esquintla	19,660	15.9	17,880	7.0	- 8.9
21.	El Progresso	4,482	9.4	240	0.3	- 9.1
22.	Santa Rosa	10,294	9.4	1,460	0.9	- 8.5
	Republic	1,497,261	53.6	1,820,960	43.2	-10.4

[8] Listing order is by percent of Indian Population in 1950.

[9] Direccion General de Estadistica, 1950. op.cit. p. xxxII

[10] Direccion General de Estadistica, 1964. op.cit. pp. 49-51.

Issue:	Socialization: Frontiers, Melting Pots and Other Myths.
Topic:	Migration: Mayflowers Old and New.
Title:	"The Portals and Barriers of International Migration."
Descriptor:	Is Canada receiving the cream of the brain drain or is she creating a Pandora's box? A fundamental change in Canadian immigration laws may have long term effects. An examination of recent immigration reveals the interdependency of events in influencing international movement. Of all the forms of mobility the international migration is the most sensitive to changes in government policy. The session is designed as a teaching-aid for participants with an open discussion on how to correlate the concepts with recent migration experience. The discussion will center upon using the diagrams and tables as the basis of a unit for a College seminar. The impact upon Canada of events in the U.S.A., Europe, and the West Indies will be analysed.
Discussion Leader:	Frank Barrett, Geography Programme, Atkinson College, York University, Toronto, Canada.

* * * * *

The Portals and Barriers of International Migration

Since the end of the Second World War Canada has followed an expansionist immigration policy. Initially, British and Northwest Europeans were the prediminant migrants. However, during the fifties and the sixties Southern Europeans accounted for an increasing percentage. While token immigration from colored Commonwealth and other non-European countries existed during this period, it was not until 1962 and especially 1967 after a change in Canada's Immigration Act that fundamental alterations in the composition of the migration stream occurred.

The accompanying diagrams, A Migration System, and the Portals and Barriers of International Migration provide a framework in which migration flows may be studied.

Students are encouraged to study the movement to Canada of immigrants by continent. Library research into such topics as the effects of the European Common Market on Intra-European migration, recent British and Canadian Immigration Laws and the Viet Nam war should be analysed with respect to immigration to Canada. The accompanying tables indicating West Indian emigration to the United Kingdom, and the movements of West Indians to Canada should be related to the diagram on Portals and Barriers. In such an analysis statistics and conditions in Trinidad for example, could be inserted into the model as the Country of Emigration, those of the United Kingdom for the Intermediary Country and Canada for the Country of Immigration.

Another worthwhile exercise is to compare the percentage by country for each category of intended occupation. What correlation appears to be valid regarding non-Caucasian immigrants and skilled personnel? A student paper on the "Colored Brain Drain to Canada" would be appropriate.

Finally the dramatic concentration of West Indians in Canada could be mapped. The anomaly is even greater than at first appears since the destination by province is largely a movement to Toronto and a few other Canadian cities. Several other correlations exist. It may be that a professor may prefer to hand students the accompanying tables with the simple instructions to analyse the data.

The following references will assist students in examining the material.

Barrett, Frank. Post War European Immigration to Metropolitan Toronto: A Social Geography. Unpublished M.A. Thesis, University of Minnesota, 1964.

Canada Year Book (annual publication)
Queen's Printer: Ottawa

Canada Immigration Statistics (annually)
Department of Manpower and Immigration.

Francis, O. C., "The Characteristics of Emigrants Just Prior to Changes in British Commonwealth Immigration Policies", Proceedings Second Caribbean Scholars Conference, University of Puerto Rico,1965.

Kalbach, Warren E., The Impact of Immigration on Canada's Population. 1961 Census Monograph Series, Queen's Printer: Ottawa, 1970.

Levitt, Kari, Canada-West Indies Economic Relations. McGill University Press, Montreal, 1968.

Peach, Ceri, West Indian Migration to Britain: A Social Geography. Oxford University Press: London, 1968.

Richmond, A. H. Post-War Immigrants in Canada University of Toronto Press Toronto, 1967.

TABLE 1

IMMIGRANTS TO CANADA BY CONTINENT OF FORMER RESIDENCE

	Europe	Africa	Asia	Australasia	North & Central America	(U.S.A.	South America	Oceania & other areas	Total Immigration
1960	79%	1%	4%	2%	12%	(10.8)%	2%	<1%	100%=104,111
1961	73	2	4	2	17	(15)	2	<1	100%= 71,689
1962	72	4	3	2	18	(15.6)	1	<1	100%= 74,586
1963	76	3	4	1	15	(12.6)	1	<1	100%= 93,151
1964	73	5	5	2	13	(11.2)	2	<1	100%=112,606
1965	74	4	7	2	11	(10.4)	1	<1	100%=146,758
1966	70	3	7	2	11	(8.9)	1	<1	100%-194,743
1967	72	3	9	3	13	(8.5)	1	<1	100%=222,876
1968	66	3	12	3	16	(11.1)	2	<1	100%=183,974
1969	55	2	14	3	23	(14.1)	3	<1	100%=161,531
1970	51	2	14	3	26	(16.5)	3	<1	100%=147,713

Sources:

Canada Immigration 1960, Department of Citizenship and Immigration
Canada Immigration 1967-70, Department of Manpower and Immigration
Canada Year Book, 1963-64; 1967; 1968.

TABLE 2
WEST INDIAN COMMONWEALTH* MIGRATION TO CANADA BY COUNTRY OF FORMER RESIDENCE

	Number of Immigrants	As percentage of the total immigration to Canada
1960	1,168	1.12%
1961	1,126	1.57
1962	1,480	1.98
1963	2,227	2.39
1964	2,072	1.84
1965	2,926	1.99
1966	3,746	1.92
1967	7,962	3.57
1968	7,811	4.25
1969	14,246	8.82
1970	13,595	9.20
	58,359	

* Includes British Honduras and Guyana

Sources: Same as for Table 1

TABLE 3

IMMIGRANTS AS A PERCENTAGE OF TOTAL WORKERS, SELECTED BY COUNTRY OF FORMER RESIDENCE AND INTENDED OCCUPATION

Intended Occupation	Year	China*	India	Italy	Jamaica	Pakistan	Portugal	Trinidad	U.K.	U.S.A.	All Worker Immigrants to Canada
Professional	1967	57.19%	54.99%	4.54%	16.81%	69.11%	3.02%	27.01%	29.45%	47.83%	25.81%
	1968	50.76	61.68	4.54	16.31	48.69	2.82	27.38	36.13	53.08	30.64
	1969	36.15	52.57	6.82	14.27	43.07	1.83	18.38	39.02	51.25	31.87
	1970	33.89	40.88	8.94	11.14	38.46	1.43	14.69	33.20	47.04	28.84
Clerical	1967	15.21	7.99	1.91	23.15	10.59	2.41	26.67	21.12	14.14	13.89
	1968	14.49	8.21	2.33	22.81	15.21	3.70	32.87	19.29	13.31	13.25
	1969	16.91	16.50	3.22	30.54	16.50	4.28	30.00	18.20	13.76	14.49
	1970	22.01	12.74	3.10	22.19	12.74	2.70	28.73	19.89	13.79	15.62
Service	1967	5.32	1.22	9.74	23.99	2.64	6.43	13.40	6.18	4.52	8.96
	1968	11.76	1.51	9.91	25.39	2.58	18.10	11.24	7.02	4.84	9.67
	1969	1985	1.71	11.21	21.18	1.71	11.78	8.06	8.19	5.32	10.74
	1970	15.84	2.16	10.39	22.12	2.16	8.69	11.14	8.44	6.23	10.10
Construction	1967	1.29	.67	16.70	5.72	2.80	11.48	4.08	8.72	2.93	8.90
	1968	1.20	3.64	25.94	4.93	2.27	18.17	3.84	5.00	1.89	8.11
	1969	1.20	1.14	22.12	5.36	1.20	21.68	4.41	5.90	2.59	7.10
	1970	1.24	1.28	21.37	7.61	00.00	23.85	4.81	7.27	2.87	7.72
Manufacturing	1967	9.60	9.00	32.99	16.31	15.00	20.45	21.02	21.69	8.33	23.52
	1968	9.24	9.48	45.48	23.04	14.56	27.51	18.25	18.81	8.05	24.29
	1969	12.86	11.02	44.26	25.70	21.90	36.13	23.16	16.11	7.49	20.72
	1970	13.67	14.30	39.16	26.53	23.50	39.71	24.19	13.61	8.49	20.60
Labourer	1967	0.58	5.49	28.00	6.00	0.93	31.95	0.68	1.31	0.92	7.35
	1968	0.51	5.31	4.85	1.46	0.97	9.41	0.46	1.33	0.71	2.81
	1969	1.47	1.10	3.70	.85	1.10	5.04	0.50	0.83	0.77	2.40
	1970	1.70	2.18	4.98	1.80	0.85	2.60	0.65	0.47	0.92	2.08
Total number of workers	1967	2406	1802	14579	2397	107	3433	1470	32806	8262	119539
	1968	2746	1318	9462	1784	309	1701	1512	20801	9540	95446
	1969	3259	2631	4996	2459	548	2242	3286	17311	2459	84349
	1970	2172	2566	3938	2997	468	3002	2621	14583	2997	77723

Sources: 1967, 1968, 1969, 1970 Immigration Statistics Canada, Department of Manpower and Immigration

* China includes mainland China, Hong Kong and Taiwan.

C-3-228

TABLE 4

MIGRATION TO CANADA OF SELECTED WEST INDIAN COUNTRIES

1967-1970

Country	Total	Rank by number of immigrants to Canada	Rank by size of population
Antigua	612	7	9
Barbados	4,097	4	4
Dominica	463	9	8
Grenada	743	6	6
Guyana	5,514	3	3
Jamaica	14,892	2	1
Montserrat	162	11	11
St. Kitts-Nevis	560	8	10
St. Lucia	442	10	5
St. Vincent	1,112	5	7
Trinidad & Tobago	15,180	1	2
	43,777		

$r_s = .90$

$Z = 2.83$

The relationship is significant at the .01 level.

Sources: Compiled from:
Quarterly Immigration Bulletin, Department of Manpower and Immigration, Ottawa.
December 1967; 1968; 1969; 1970.

TABLE 5

WEST INDIANS TO CANADA BY COUNTRY OF BIRTH AND COUNTRY OF FORMER RESIDENCE

	Born in W.I.	Resident in W.I.	Difference
1960	1,199	1,168	-31
1961	1,215	1,126	-89
1962	1,219	1,148	-71
1963	2,576	2,227	-349
1964	2,578	2,072	-506
1965	3,844	2,926	-918
1966	5,641	3,746	-1895
1967*	10,081	8,403	-2478
1968*	8.904	7,563	-1341
1969*	13,803	13,093	-710
1970*	13,286	12,456	-830

* 1967 to 1970 statistics include immigrants for all West Indian countries and colonies

Sources: Canada Year Book, 1963-64; 1967; 1968.
1967-70 Immigration Statistics Canada

-3-230

TABLE 6

PERCENTAGE OF WEST INDIANS COMING TO CANADA FROM THE WEST INDIES, UNITED KINGDOM AND THE U.S.A.

	1967	1968	1969	1970
West Indians				
from the West Indies	82.25%	84.91%	92.79	92.49
United Kingdom	15.72	11.69	5.05	5.30
United States	1.10	2.50	1.42	1.33
Others	.93	.90	.74	.88
	100.00	100.00	100.00	100.00

Sources 1967 - 70 Immigration Statistics Canada

TABLE 7

PROVINCE OF INTENDED DESTINATION FOR FORMER WEST INDIAN RESIDENTS

Province	1967	1968	1969	1970
Newfoundland	0.2%	0.1%	0.1%	0.1%
Prince Edward Island	0.0	0.0	0.0	0.1
Nova Scotia	1.0	0.6	0.9	0.6
New Brunswick	0.4	0.3	0.3	0.1
Quebec	26.6	26.10	23.3	20.8
Ontario	59.8	61.8	63.6	67.4
Manitoba	4.1	4.3	3.9	3.9
Saskatchewan	0.9	1.0	0.5	0.5
Alberta	3.8	3.4	4.0	3.4
British Columbia	3.2	2.5	3.3	3.1
N.W.T., Yukon	0.1	0.1	0.1	0.1
	100.0%	100.0%	100.0%	100.0%
Total Number	(8403)	(7563)	(13,093)	(12,456)

Sources: 1967-70 Immigration Statistics Canada

TABLE 8

WEST INDIAN IMMIGRATION TO CANADA BY SEX IN 1967, 1968, 1969, 1970

	1967	1968	1969	1970
Females	56.8%	53.1%	46.5%	52.8%
Males	43.2%	46.9%	53.5%	47.2%
	100.0%	100.0%	100.0%	100.0%
Total West Indian Immigration	(8403)	(7563)	(13,093)	(12,456)

Sources: 1967 - 70 Immigration Statistics Canada

Issue:	Socialization: Frontiers, Melting Pots, and Other Myths.
Topic:	Social Conflict and Resolutions: The Quest for Identity With Dignity.
Title:	"Proxemics and Scale: Configurations of Conflict."
Descriptor:	The active role of space in creating and exacerbating social conflict is simulated through a series of scenarios. The scenario is a means whereby the participant "feels" and experiences the basic concepts of geographic distance, and configuration size and shape and their effect and affect on social conflict.
Discussion Leaders:	Beverly Buchert and Robert W. McColl, University of Kansas.

* * * * *

"Proxemics and Scale: Configurations of Conflict."

SCENARIO
Majority-Minority Conflict

If possible the scenario should be played to a video-tape so that it will record actual behavior which can be objectively analyzed later.

Objective:

To demonstrate how a majority can dominate or influence the attitudes, opinions, and even actions of a smaller group (minority).

Procedure:

Find a highly emotional issue such as drugs vs. drink, students vs. administrators, pro-war vs. anti-war etc. Divide the class into at least two groups. One group (with the more popular stance, e.g. pro-drugs, pro-students, anti-war, etc.) should be designated the majority and be composed of more students (in total numbers) than the minority.

Each side should retire to formulate its arguments and plan of attack. After an appropriate period of time the groups should be brought together for a confrontation. DO NOT USE REPRESENTATIVES. USE THE ENTIRE GROUP. Repeat the process at least three times.

For the first confrontation have the two groups meet in any configuration they deisre. However, the second confrontation should be controlled so that the majority group surrounds the minority, but at some distance (say 5-10 feet). For the third confrontation, the majority should close their circle around the minority to not more than 3 feet, even closer if you wish.

Instructor's Role:

Ask the minority what their feelings were about 1) their verbal positions in the argument. Did these change and become less real through the various confrontations? 2) How did they "feel" as the majority group began to close in? What did this do to the emotional feeling about the other group? About individuals in the group?

Did the majority feel more confident or dominant at open configurations, in the first encirclement, or in the closest possible encirclement?

The instructor should lead the discussion into parallels with urban ghettos, densities of population, proximity of white neighbors, etc. Also lead the discussion to the national and international scale with examples of the neutrality of Switzerland, of Cambodia (pre-1970) or the attitudes and "feelings" and behavior of Isreal in the Middle East.

SCENARIO
Minority Dominance

Objective:

To demonstrate how a minority can, through group cohesion and conscious use of space, dominate a majority.

Procedure:

Find a highly emotional issue such as drugs vs. drink, students vs. administrators, pro-war vs. anti-war, etc. Divide the class into at least two groups. One group (with the more popular stance, e.g. pro-drugs, pro-students, anti-war, etc.) should be designated the majority and be composed of more students (in total numbers) than the minority.

Each side should retire to formulate its arguments and plan of attack. After an appropriate period of time the groups should be brought together for a confrontation. DO NOT USE REPRESENTATIVES. USE THE ENTIRE GROUPS. Repeat the process at least three times.

For the first confrontation the majority should be kept against one side or wall of the room. This can best be accomplished non-verbally. The teacher should stand very close to the majority group so that they will not "pass" him into the center of the room. The minority group should have been told (privately) to move toward the majority group (non-movers). At the end of this session the minority may keep its position or may retire to the other end of the room.

For the second confrontation the majority group should still be held against the wall. The minority group this time should move VERY close to the majority. If time is limited they also should divide into two or more sub-groups and talk to or at anyone in the majority, not just those in front of them.

What normally will occur is that the space-tension (proxemics) upon gives verbal limits so they have never been told they cannot move). If they do move it will be a sign of reaction or over-reaction to a perceived "threat".

Questions should be directed toward how the majority group "felt" at each stage. What tensions entered their minds? Why? Was it the nature of the arguments? Did they ever consciously perceive that space was being used against them?

Transfer these observations to the real world by asking such questions as:

Can the students relate their "feelings" and actions to the "feelings" and actions of minority groups such as the Black Panthers and Brown Berets?

How can the use of space (proxemics) be used to better understand minority-majority relations in the inner city?

What is the role of distance and homogeneity of position (consciousness) in producing or alleviating inter-group tension?

Relate these same observations to the international scale. Again Isreal and its behavior in the Middle East provides a ready-made example of minority-majority interaction, especially minority dominance.

PROXEMICS AND SCALE: Configurations of Conflict

The scenarios presented concentrate upon student participation in learning how geography, especially distance, affects social behavior in a conflict situation. The scenarios can be used to provide the students with a "feel" for tension as related to space and this "feeling" can then be transferred to the various geographic scales, urban, national, and international. Especially important is an understanding of how space may be controlled or manipulated in the context of social tension.

C-4-234

Issue: Socialization: Frontiers, Melting-Pots, and Other Myths.

Topic: Social Conflict and Resolution: The Quest for Identity with Dignity.

Title: "Newcomers to the City: Ethnic Community Formation, Growth, and Change."

Descriptor: Needs in urban research are identified around questions of awareness, involvement, data deficiencies, macro versus micro, the false dichotomy between teaching and research, the testing of conceptual models, and problems stemming from a discipline-bounded viewpoint. Sample projects involving student participation, and related to the topic of urban ethnic structure, are discussed in the context of: (1) specific ideas that they illustrate and (2) benefits as they relate to the above needs.

Discussion Leader: Bryan Thompson, Wayne State University, Detroit, Michigan.

Toward a Strategy for Ethnic Studies

	Problems	Needs	Benefits
(1)	Awareness (lack of)	Involvement, personalize American ethnic history	Generates new questions and experimentation with new methods.
(2)	Data	Generate own data for solving problems.	Develop more acute observational skills. Collect new types of data.
(3)	Scale	Sensitivity to the interplay of macro and micro elements in ethnic studies. More small scale regional case studies.	Awareness of: (1) problem complexity and (2) connections, at different levels, in the urban system.
(4)	Teaching-research dichotomy	Involve students in research and teaching	Acquire new skills. Complementarity of research and teaching.
(5)	Bounded-disciplinary viewpoint (and problem compartmentalization)	Inter-disciplinary approach to ethnic research. More rigorous testing of conceptual models.	Familiarity with concepts and techniques of other disciplines. Avoidance of naive explanations. Development of: (1) systemic view of city, (2) new models and new theory.

Sample Projects

1) Ethnic Settlement Scales: (1) National, (2) Regional, (3) Urban, (4) Intraurban
2) Detroit Area Ethnic Mapping Project
3) Personal Migration Histories
4) The Urban Field Trip

Table 1

Classification of Human Mobility (after Jack Eichenbaum)

		Decision to move from origin			
		Independent	Influenced	Determined	of/by Society
Decision to move to destination	Independent	1	2	3	
	Influenced	4	5 (Migrants)	6 (Refugees)	
	Determined of/by Society	7	8 (Allocatees)	9 (Slaves)	

Table 2

EUROPEAN IMMIGRATION 1850-1919

	1850-59	1860-69	1870-79	1880-89	1890-99	1900-09	1910-19
Total in Millions	2.7	2.1	2.7	5.2	3.7	8.2	6.3
Percent of Total From:							
Ireland	36.9	24.4	15.4	12.8	11.0	4.2	2.6
Germany	34.8	35.2	27.4	27.5	15.7	4.0	2.7
United Kingdom	13.5	14.9	21.1	15.5	8.9	5.7	5.8
Scandinavia	0.9	5.5	7.6	12.7	10.5	5.9	3.8
Russia		0.2	1.3	3.5	12.2	18.3	17.4
Austria-Hungary		0.2	2.2	6.0	14.5	24.4	15.2
Italy		0.5	1.7	5.1	16.3	23.5	19.4

Source: David Ward, Cities and Immigrants, p. 53.

Table 3

Regional Distribution of Selected Immigrant Groups, 1910
Index of Deviation[1]

	Ireland	Germany	United Kingdom	Canada	Scandinavia	Russia	Italy	Austria-Hungary	Percent of Nation's Foreign Born
New England	1.8	0.2	1.3	3.2	0.5	0.9	1.0	0.4	13.6
Middle Atlantic	1.3	0.8	1.0	0.3	0.3	1.5	1.6	1.4	36.1
East North Central	0.6	1.6	0.8	1.0	1.1	0.8	0.5	1.3	23.0
West North Central	0.5	1.4	0.7	0.7	3.2	0.6	0.2	0.7	12.1
South	0.7	1.4	0.9	0.3	0.3	0.8	1.1	0.7	5.4
Mountain	0.6	0.5	1.9	0.9	1.6	0.4	0.8	0.7	3.3
Pacific	0.8	0.8	1.3	1.2	1.7	0.3	0.9	0.4	6.5

$$\text{[1]Index of Deviation} = \frac{\text{foreign-born group (\% of nation's total in region)}}{\text{\% of nation's foreign-born population}}$$

Source: David Ward, Cities and Immigrants, p. 74

Table 4

Foreign Stock in Selected SMSAs (1960)

SMSA	% Foreign Stock	Ireland	Sweden	Germany	Poland	USSR	Italy	Canada
Atlanta	4.8	1.5	4.2	12.6	1.6	2.1	1.8	5.8
Boston	41.8	17.2	2.2	2.4	3.8	8.8	18.7	24.3
Cincinnati	10.5	6.5	0.8	41.7	2.9	5.7	8.1	3.7
Detroit	30.1	1.9	1.2	10.1	16.8	4.9	8.4	22.6
Denver	16.0	4.2	6.7	15.7	3.8	10.3	8.3	6.8
Hartford	39.3	9.2	3.7	5.9	12.6	7.3	19.3	16.1
Fort Worth	4.7	2.8	2.8	12.3	3.5	3.6	3.7	6.4
Milwaukee	28.1	1.4	1.7	35.0	16.2	4.5	4.8	3.6
Minn.-St. Paul	25.0	2.6	20.5	16.9	5.3	4.4	2.1	9.0
New Orleans	8.1	3.5	0.7	10.9	2.1	3.1	31.2	3.2
Newark	36.2	6.6	1.4	12.0	10.7	8.9	24.8	2.8
Norfolk	6.1	4.5	1.5	8.6	5.9	7.4	11.0	11.5
St. Louis	12.8	6.1	1.0	30.6	6.5	7.0	10.3	2.8
San Bernadino-Riverside-Ontario	20.3	2.0	3.1	9.5	2.2	2.7	5.5	10.6
San Francisco-Oakland	30.4	5.2	3.2	9.3	1.9	3.9	12.5	8.1
Seattle	26.8	2.5	9.3	9.0	1.7	3.3	3.7	22.6
Syracuse	24.7	6.9	0.8	12.7	10.7	4.9	25.3	14.4

Source: Census of Population and Housing, 1960

Note: percentages for countries refer to percent of total foreign stock.

Table 5

C-4-239

Issue:	Socialization: Frontiers, Melting-Pots, and Other Myths.
Topic:	Social Conflict and Resolution: The Quest for Identity with Dignity.
Title:	"Apartheid Since 1652."
Descriptor:	Apartheid is one of the most crucial experiments in racial interaction taking place in the world today, although many Americans are ignorant of the implications of the term. Maps, tables and slides will be used to portray the relationship between African and European in South Africa. Subsequent discussion will stress the geographical aspects of this problem, primarily the allocation of territory.
Discussion Leader:	Marilyn Silberfein, The University of Manitoba, Winnipeg, Canada.

* * * * *

APARTHEID SINCE 1652

The term apartheid was first introduced in the 1950's to represent certain exclusionary practices which developed from the first contact between Europeans and Africans in South Africa. Beginning in 1652, the dominant White groups have attempted to erect barriers separating themselves from the African population. Economic expediency usually worked to offset these artificial boundaries but the development of devisive techniques has been a preoccupation of successive political regimes. Since the assignment of specific territories to certain ethnic groups is a spatial process it merits the attention of the geographer.

Patterns of racial separation in South Africa can best be exhibited on maps. Figure I indicates the migration routes of both Dutch settlers and the Bantu as well as their subsequent points of contact. Most Africans came under British control in the 19th century (Fig. 2). Following the creation of an independent (White dominated) Union of South Africa in the early 20th century, a self-inflicted search for racial separatism was instituted by the new government: what was the "ideal" distribution of the Bantu? One suggestion relegated the Africans to a separate state (Fig. 3), while retaining White dominance over most of the Union territory. The post-1948 Nationalist government has been more direct, designating the ultimate homelands of the Africans (Fig.4) although most of these areas were already overcrowded, lacking in job opportunities, and characterized by badly leached and eroded soils.

The impact of apartheid policies can best be appreciated from Tables I-IV which support the following facts: the numerical preponderance of the Bantu, the trend toward Bantu urbanization, and the various inequities of the African position in South Africa. However, the portrayal of real-life conditions on the Bantu reserves require the use of filmstrips and slides for effective classroom presentation.

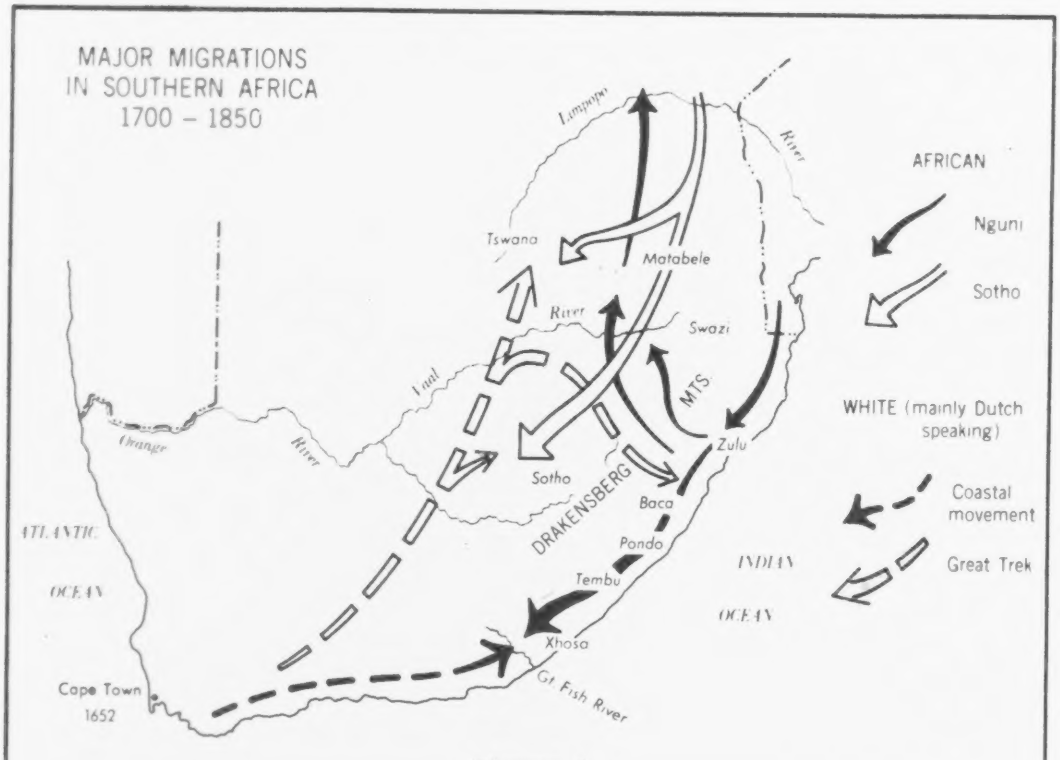

MAJOR MIGRATIONS
IN SOUTHERN AFRICA
1700 – 1850
Limpopo
River
Tswana
Matabele
Vaal
River
Swazi
MTS
DRAKENSBERG
Zulu
Sotho
Baca
Pondo
Tembu
Xhosa
Orange
River
ATLANTIC
OCEAN
INDIAN
OCEAN
Cape Town
1652
Gt Fish River
AFRICAN
Nguni
Sotho
WHITE (mainly Dutch speaking)
Coastal movement
Great Trek

Figure 1

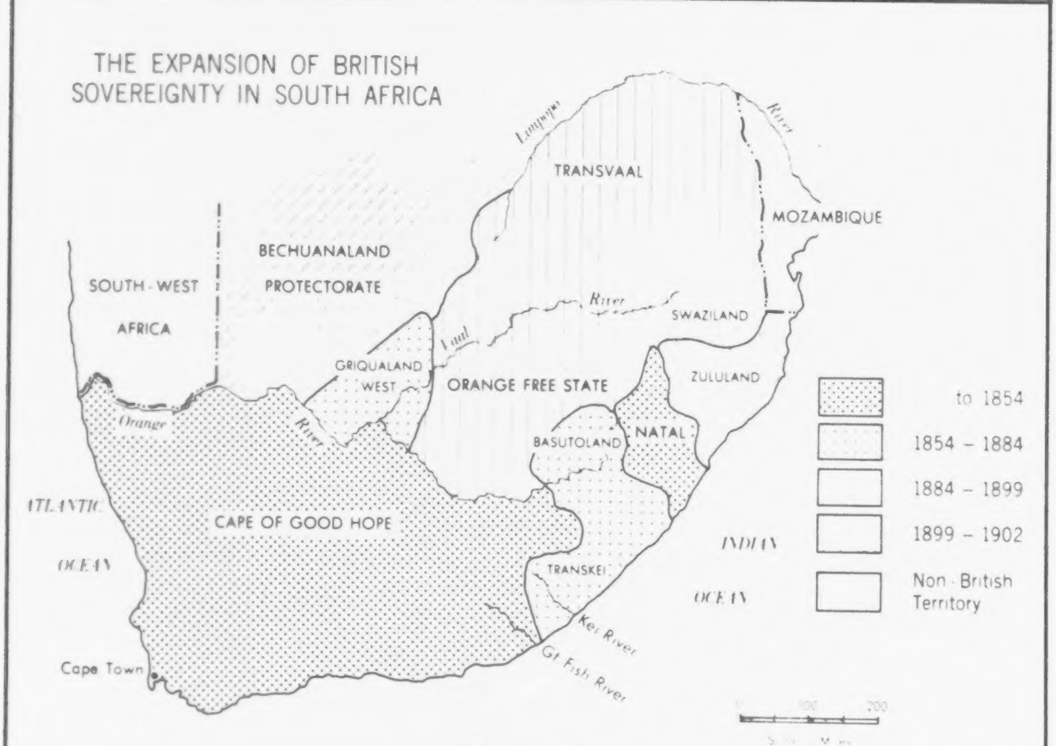
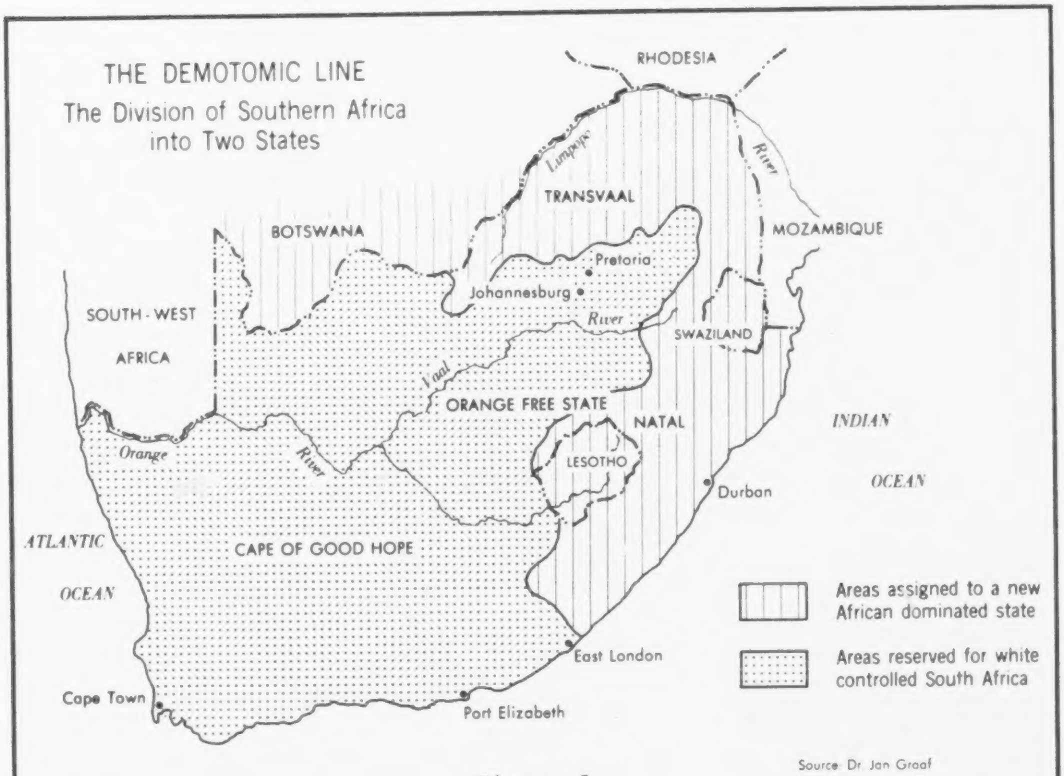
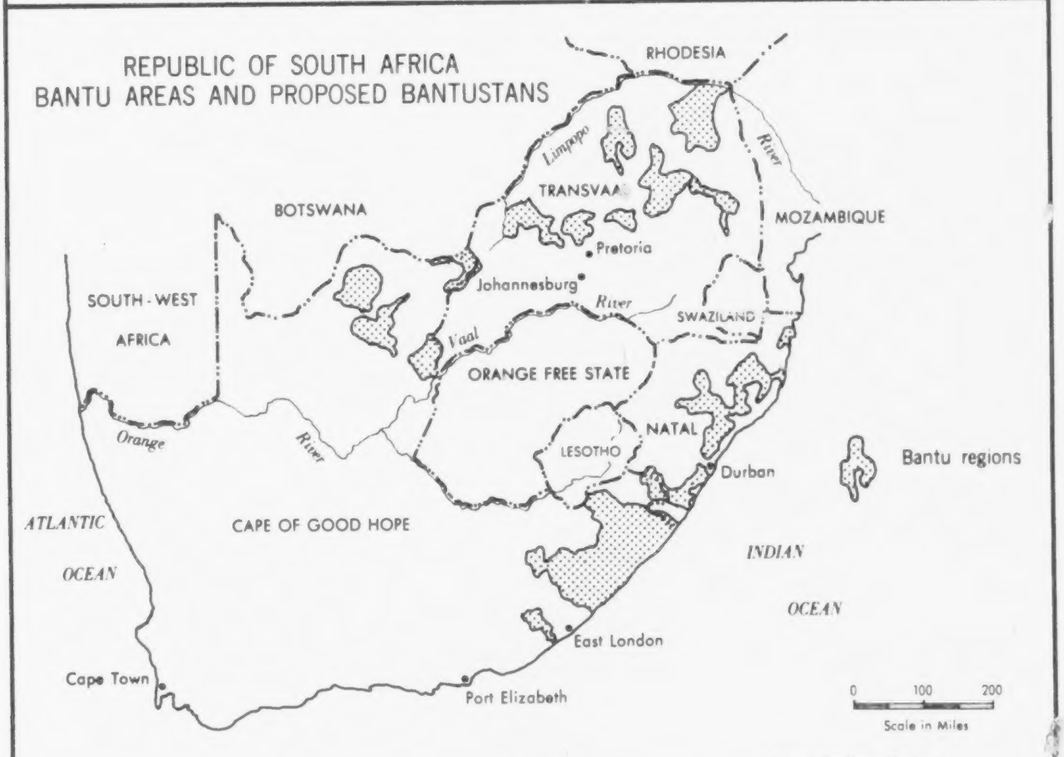

THE EXPANSION OF BRITISH
SOVEREIGNTY IN SOUTH AFRICA
Limpopo
River
TRANSVAAL
MOZAMBIQUE
BECHUANALAND
PROTECTORATE
SOUTH-WEST
AFRICA
River
SWAZILAND
Vaal
GRIQUALAND
WEST
ORANGE FREE STATE
ZULULAND
Orange
River
BASUTOLAND
NATAL
CAPE OF GOOD HOPE
TRANSKEI
ATLANTIC
OCEAN
INDIAN
OCEAN
Kei River
Gt Fish River
Cape Town
to 1854
1854 – 1884
1884 – 1899
1899 – 1902
Non-British Territory
0
100
200

Figure 2


THE DEMOTOMIC LINE
The Division of Southern Africa into Two States
RHODESIA
Limpopo
River
TRANSVAAL
BOTSWANA
MOZAMBIQUE
Pretoria
Johannesburg
River
SOUTH-WEST AFRICA
SWAZILAND
Vaal
ORANGE FREE STATE
NATAL
INDIAN
OCEAN
Orange
River
LESOTHO
Durban
ATLANTIC
OCEAN
CAPE OF GOOD HOPE
Areas assigned to a new African dominated state
Areas reserved for white controlled South Africa
East London
Cape Town
Port Elizabeth

Source: Dr. Jan Graaf

Figure 3


REPUBLIC OF SOUTH AFRICA
BANTU AREAS AND PROPOSED BANTUSTANS
RHODESIA
Limpopo
River
TRANSVAAL
BOTSWANA
MOZAMBIQUE
Pretoria
Johannesburg
River
SOUTH-WEST AFRICA
SWAZILAND
Vaal
ORANGE FREE STATE
NATAL
LESOTHO
Orange
River
Bantu regions
Durban
ATLANTIC
OCEAN
CAPE OF GOOD HOPE
INDIAN
OCEAN
East London
Cape Town
Port Elizabeth
0
100
200
Scale in Miles

Source: Tomlinson Report

Figure 4

TABLE I - Demographic Information from the South African Census

Group	Census of 1904 Number	Census of 1904 % of total	Census of 1960 Number	Census of 1960 % of total
White	1,116,806	21.6	3,088,492	19.4
Bantu	3,491,056	67.4	10,927,922	68.6
Indian	122,734	2.4	403,868	2.5
Colored	445,228	8.6	1,509,258	9.5
Total non-white	4,059,018	78.4	12,841,048	80.6
Total population	5,175,824		15,929,540	

Source: South African Census

TABLE II - Urban Population of South Africa

Year	Total Urban	Urban % of Total Pop.	Bantu Total Urban	Urb.%	White Total Urban	Urb.%
1904	1,222		361		599	
1921	1,950	27.9	658	14.0	908	59.6
1946	4,482	38.4	1,902	23.7	1,793	74.5
1960	7,481	46.4	3,471	34.6	2,582	83.6

Source: Statistical Year Book 1965.

TABLE III - Other Social and Economic Statistics

	White	Bantu
Population (millions)	3.4	12.5
Income per capita	$1,790	$116
Average wage (mining)	$3,800	$210
Income exempt from tax	$ 840	none
Education expenditure per pupil	$ 300	$ 19
Infant mortality per 1000 births	29	200 plus
Life expectancy	62-72	37-42
Percent of population (balance Asian and Colored)	19	68
Percent of land reserved	87	13
Persons in registered trade unions	344,752	none

Source: The American Committee on Africa, 1966 figures.

SELECTED REFERENCES

Green, L. P. and Fair, T. J. D., Development in Africa: A Study in Regional Analysis with Special Reference to Southern Africa. Johannesburg: Witwatersrand University Press, 1962.

Hill, Christopher R., Bantustans: The Fragmentation of South Africa. London: Oxford University Press, 1964.

Holzner, Lutz and Hart, Graham H. T., "Cultural-Genetic Aspects of Bantu Urbanization in South Africa," The Professional Geographer, XXII (March, 1970), 67-72.

Houghton, D. Hobart, "Economic Dangers of Separate Bantu Development." Optima, IX (1959), 188-198.

Kuper, Leo, "Some Demographic Aspects of White Supremacy in South Africa." The British Journal of Sociology, I (1950), 144-153.

Niddrie, David L., South Africa: Nation or Nations? Van Nostrand Searchlight Book No. 40. New York: D. Van Nostrand Company, 1968.

Pollock, N. C. and Swanzie, A. An Historical Geography of South Africa. London: Longmans, 1963.

Rhoodie, N.J. and Venter, H. J., Apartheid: A Socio-historical Exposition of the Origin and Development of the Aparteid Idea. Cape Town, 1960.

Sabbagh, M. Ernest, "Some Geographical Characteristics of a Plural Society: Apartheid in South Africa." The Geographical Review, LVIII (January, 1968), 1-28.

Sachs, E. S., The Anatomy of Apartheid. London: Collett's, 1965.

Tomlinson, F. R., et al. Summary of the Report of the Commission for the Socio-Economic Development of the Bantu Areas Within the Union of South Africa. Pretoria: The Government Printer, 1955.

C-5-244

Issue:	Political Power: The Games People Play.
Topic:	Environmental Quality: Management of Preferences.
Title:	"The Dilemma of the White Fringed Beetle and The Decision to Use Persistent Pesticides."
Descriptor:	One of the ubiquitous questions in studies on environmental quality deals with whether harmful chlorinated hydrocarbon pesticides should be discontinued even at the expense of a decline in agriculture. Students in the qualitative simulation are faced with complex decision making in terms of the controlled use of pesticides, the use of biological control or a possible combination of these alternatives.
Discussion Leader:	William S. Kerr, III, The University of West Florida, Pensacola, Florida

* * * * *

The Dilemma of the White Fringed Beetle and the Decision to Use Persistent Pesticides

This role playing activity is primarily designed to examine the pesticide issue from an environmental and an economic-agricultural viewpoint. The simulation functions most propitiously when it is used to complete a unit on pesticides or biocides.

Students assume roles of farmers, county farm agents, chemical sales representatives and a county agricultural commissioner. The farm agents and sales representatives require more background than the other roles. Therefore, it is suggested that students assuming these roles have the opportunity to organize their thoughts in groups of two and acquire additional information from the instructor and the library. Free booklets on Florida soybean cultivation and the white fringed beetle can be obtained from the Florida Agricultural Extension Service in Gainesville. It is imperative that the instructor acquire a thorough knowledge of the role playing activity. His capacity is largely one of introducing the game, assigning the roles, directing the action and acting as a general consultant.

The purpose of the simulation is to direct the participants toward consideration of alternatives of environmental quality, via the elimination of pesticides which are harmful to our biosphere, or economic success. For example, should pesticides be discontinued at the expense of agricultural decline? Students begin to realize how difficult it is to acquire environmental quality without consequences.

Procedure 1 - First Class Period

Introduction - By Instructor (followed by class reading - 20 minutes)

You are going to take part in a role playing activity designed to present the complex nature of decision making related to the use of chlorinated hydrocarbon pesticides in farming activities in Northwest Florida. This activity involves four types of individuals: growers, county farm agents, sales representatives of a chemical company and a county agricultural commissioner. A brief description of these groups is given below:

Growers: Five soybean farmers, representing the majority of Florida Panhandle growers, are gathered for a hearing at the Molino, Florida County Agricultural Extension Service office. Each group will hear presentations from two chemical company representatives and two county agents. The farmers are concerned about the future use of chlorinated hydrocarbons in pest control. (Five farmers in each of four groups)

Chemical Company Representatives: Two sales employees from Triex Chemical Corporation present arguments that extensive chemical control should be continued, and that the farmers should make recommendations to their state representatives to this effect. (Two representatives in each of four groups)

County Agents: Two county agents, well versed in modern agricultural methods and techniques as well as pesticide practices, show the farmers the best pest control alternatives for growing crops. The alternative methods include proper insecticide application, biological control and integrated pesticide control methods. (Two representatives in each of four groups)

County Agricultural Commissioner: He is an overseer of the agricultural hearing. His function is to keep the sessions orderly and to offer comments and suggestions when necessary. His main activity is to preside over the final phase of the hearings in which the growers make an attempt to agree on a course of action related to the use of pesticides in their area.

Role Playing Design

4 groups of farmers at 5 each	=	20
2 sales representatives for each of the 4 groups	=	8
2 county agents for each of groups	=	8
1 county agricultural commissioner	=	1
Total		37

In addition to your specific knowledge, each of you is cognizant of the general nature of the pesticide problem in Florida. Action is pending in the Florida legislature (House Bill 9[illegible]6) to pass a persistent pesticide[1] bill that will restrict the use of chlorinated hydrocarbons in Florida. These pesticides, including DDT and chlordane are applied to most crop areas in Northwest Florida, especially in soybean cultivation. Many farmers feel that these insecticides must be retained in order to control the white fringed beetle, Graphognathus sp., which attacks the roots of a variety of crops including small grains in the larvae stage. The farmers are concerned that a pesticide ban would put Florida agriculture at a competitive disadvantage with other states that do not have pesticide restrictions. There is a general concern that many growers will be out of business before alternatives can be acquired.

---

[1] "Persistent pesticide" is designated as a chemical which will persist in the environment beyond the current growing season for a crop, or one year for annual plants.

Soybeans, harvested for beans, are grown on approximately 115,000 acres in Florida. Nearly all of the crop is grown in nine panhandle counties west of the Appalachicola River (Figure 1). Escambia, Santa Rosa, and Walton Counties contain the most soybean acreage in the State. In addition to soybeans, there are a variety of crops rotated with it including corn, wheat, oats, rye and cotton. All of these crops are affected by the white fringed beetle.

Each of you will be assigned a role. There are several role playing designs that can be formulated depending on the size of the class. Role deletions are left to the discretion of the instructor. Each player should take five to ten minutes to read the part he or she will be assuming. Although the information presented in this qualitative simulation is not entirely accurate, your decision should not be influenced by the hypothetical information. After reading the role you are to spend the rest of the period in class or in the library acquiring as much background as possible related to the role in preparation for the next class period. Feel free to communicate with other students in your group if you have pertinent information which would be useful to them. You should not make an attempt to redefine the role. On the contrary, you should play the role as it is presented to you. You may, of course, incorporate your own personality into the role to a limited degree.

On the second day, the county agents and chemical company representatives will make independent 10-15 minute presentations to each group of farmers. After both groups have presented their arguments the farmers will have 20-30 minutes to decide how they will solve the pesticide problem. In the last half of the class period, a representative of each farmer group will present his group's findings, and the reasons for the decision(s). After all representatives have given their reports, the class will then make an effort to come to a collective decision.

STOP - ASSIGN ROLES

Procedure II - Begin by reading only the role to which you have been assigned (5 minutes)

Growers

1. Albert Scordata - You are a 35 year old farmer with five children, a pregnant wife and high overhead. The farm includes 200 acres of soybean, 100 acres of corn and 75 acres of wheat. Until a year ago you used very little insecticide, but your wheat and corn have been infected

by white fringed beetles. Because of the fear that the soybean crop will be influenced by this pest during the summer you have applied 10 pounds of DDT per acre. You are concerned that the beetle larvae will affect more acreage next year and bring the margin of profits down to a minimum. In your recent conversations with the county agents, you have found them to be knowledgeable and honest.

2. Abe Hollingsworth - You are a 58 year old field manager for the White Oak Farms, a large agricultural corporation. You control 25,000 acres of agricultural land with nearly 50 percent being planted in soybean. As a result of 39 years of farming experience, mostly in central Florida, you feel that you can handle most problems that may arise. During the five years of the operation of the corporation, there has never been a white fringed beetle infestation. It is suspected that the soil may not have undergone cultivation for a period that was long enough for the establishment of the beetle. Moreover, DDT has been broadcast sprayed quite liberally every three years. You generally distrust the county agents because Scott Johnson persuaded you to grow over 100 acres of avocados four years ago. The crop failed because the winters were too cold, and the soil on which the trees were planted was poorly drained.

3. Tom Anderson - You are a 26 year old college graduate from Georgia Tech. with a degree in agronomy. Your father has retired leaving you with all farm management responsibilities. The farm includes 800 acres of soybean, and 300 acres of wheat and oats used for grazing 200 head of Aberdeen Angus cattle. You are an energetic young man willing to experiment with new techniques, and you are open to logical suggestions.

4. Joe Simpson - You are a 60 year old farmer with 150 acres of soybean, 50 acres of wheat and a 30 acre allotment of cotton. Although a good farmer with many years of experience, you are very conservative in philosophy and set in your ways. It is your belief that there is nothing wrong with pesticides if used properly. You also believe that it would not be in the public interest to do away with DDT or chlordane unless there is a good substitute. It has been your practice to broadcast-spray DDT, because it is a cheap and effective way of controlling many crop pests. By using the broadcast method, a damaging infestation of a looper or some other leaf eating insect can be brought under control in a few hours. In most cases, you feel that preventative treatment is good practice because it saves many man hours. You respect the county agents and heed their advice.

5. Grace Stanton - You are a 45 year old grower who acquired the farming responsibilities when your husband died six years ago. The farm contains 200 acres of corn, and 100 acres of small grains. In addition, you own 20 dairy cattle which graze on the small grains of oats, wheat and rye. You are very proud of the fact that you have never needed to use DDT. However, you are concerned because many of your neighbors have received great damage to their crops from the white fringed beetle. You are not quite certain whether you should trust the county agents, mainly because you have never had much contact with them.

County Agents

1. Bill Carter - You are a 25 year old agronomist who recently obtained a bachelor's degree from the University of Florida. Although inexperienced in farm advising (one year's experience) you are enthusiastic, academically aggressive and intelligent. Read Scott Johnson's role and work closely with him.

2. Scott Johnson - You are a 48 year old agronomist with a master's degree from Georgia Tech. with 24 years experience as a county agent. You and Bill Carter, at Bill's persuasion and with pressure from the State Office of the Agricultural Extension Service, have developed a program containing a series of pest control alternatives which will be presented to the farmers at the Molino meeting tomorrow. However, since you have worked with, and recommended, DDT for 20 years, you do not completely share Bill's enthusiasm for more modern pest control techniques. Your discussion with the farmers will include consideration of the following possible methods and techniques:

A. Utilize proper cultivation methods such as crop rotation with oats, wheat, rye and corn, recommend increased use of grain sorghum in areas which have been hardest hit by white fringed beetle, and grow as wide a diversity of crops as possible.

B. Recommend experimentation with biological control including natural predators, attractants and genetic manipulatory means.

C. In the event that DDT must be continued because of a lack of other successful alternatives, utilize proper application procedures such as: (1) careful timing of the insecticide application (spray DDT at 10 pounds per acre once every three years or chlordane at five pounds per acre once every two years), (2) do not exceed the recommended spray limits, (3) properly scout the fields and apply the insecticide only in the areas where the problem is acute, (4) discontinue preventative treatment with insecticides, (5) explore the possibility (on large farms) of utilizing an ultra low volume (ULV) undiluted spray at one ounce per acre via an aerial spraying procedure, and (6) others.

Chemical Company Representatives

Sterling Carr and Bob Hanford - You are both energetic, experienced sales representatives in your early 30's employed by the Triex Chemical Corporation which makes DDT and chlordane You are primarily salesmen, not technicians. Therefore, your knowledge of the chemical composition of the chlorinated hydrocarbons and their possible ecological impact is limited. Your main function is to sell the product. In this case you must persuade the farmers on the following points: that DDT and chlordane are necessary to their livelihood; that they are not harmful; and thay they, the farmers, should instruct their state legislators to vote against Bill #916. Your incentives to successfully complete this project include promise of continued employment, commissions, bonuses and profit sharing. You both feel that the best approach is to point out that there may be some damage by spraying LDT, but that wise use and limited application can be tolerated.

County Agricultural Commissioner

1. Herman Bowen - You are a 58 year old agricultural leader with experience as a county agent as well as a commissioner. It is your responsibility to learn as much as possible about pesticides so that you will be able to carry on an intelligent hearing at Molino, Florida. (See the description on the first page of the booklet for further insight concerning your role.)

STOP!

Procedure III - Students are requested to get into their respective groups, as designated by the instructor, organize and acquire reading material to broaden the roles. The farmers should read a variety of materials to gain a background from both pro and con viewpoints. (Time period - rest of class time)

Procedure IV . Agricultural Meeting at Molino, Florida. Second Class Period

1. Each group of farmers elects a group leader.

2. The eight chemical corporation representatives in groups of two present their case to the four groups of farmers while the county agents listen, but do not reply. (10-15 minutes)

3. The county agents in groups of two present their viewpoint to the four groups of farmers while the chemical representatives listen. (10-15 minutes)

NOTE: The county commissioner and the instructor will be moving from one group to another directing discussion and asking or answering questions.

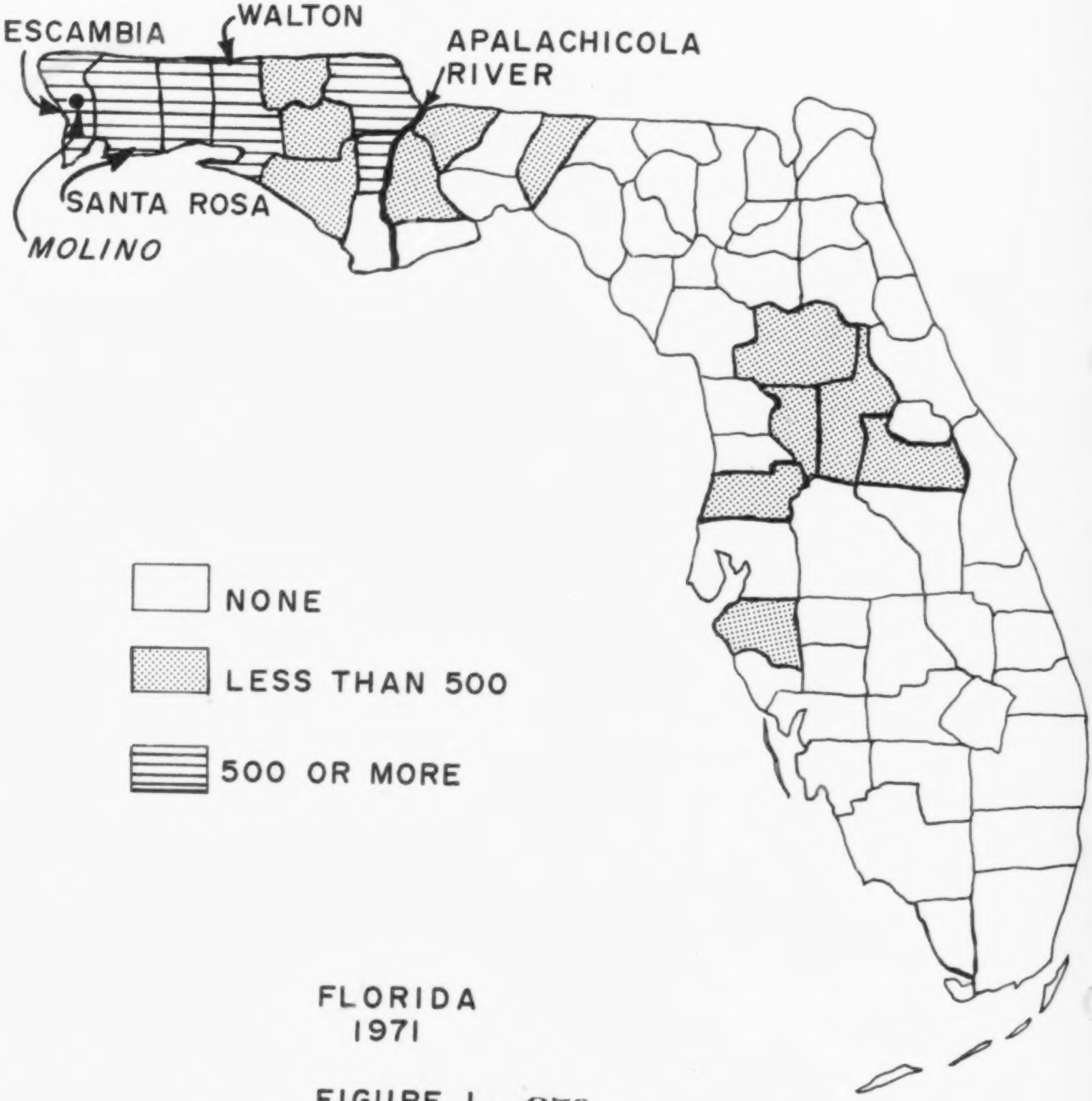
4. The four groups of farmers make independent decisions on their course of action. (25-30 minutes)

5. The representative of each group of farmers presents the final decisions and the reasons why such decisions were made. (10 minutes; 2-3 minutes per representative)

6. The class makes an effort to come to a collective decision on the problem. All class discussion at this stage is directed by the county commissioner with assistance from the instructor. (30 minutes)

NOTE: The time segments above are related to a 1 hour 20 minute class. All times can be modified to meet the needs of the class.

C-5-250


ACRES IN SOYBEANS
Harvested in beans

ESCAMBIA
WALTON
APALACHICOLA RIVER
SANTA ROSA
MOLINO
NONE
LESS THAN 500
500 OR MORE
FLORIDA
1971

FIGURE I

C-5-251

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management of Preferences.

Title: "The Energy Revolution and the American Dream."

Descriptor: American society has long taken for granted that a continuously rising supply of energy will provide the basis for material well-being. There was little, if any, thought given to the environmental problems created in securing this energy. For example, a half century ago when the nation was striving to become an industrial giant many modern-day signs of pollution that are now abhorred were then considered symbols of progress. A city shrouded in smoke was considered a dynamic industrial center. As a result of this attitude the industrial pollution problems of today were spawned.

With a tradition of use of vast energy resources, a fundamental question is, how can the nation continue to provide the vast quantities of energy needed and at the same time preserve the environment? Within this context the geographer must be able to make his contribution by applying his expertise to such questions as: What kinds of spatial dimensions must be studied to analyze and interpret the modern day energy problems. What is the role of the geographer in the formulation of policies and implementation of action programs relating to the environment? Approaches to these questions will provide the basis for the discussion of vital issues raised by the participants of the session.

Discussion Leader: E. Willard Miller, Associate Dean, College of Earth and Mineral Sciences, The Pennsylvania State University.

* * * * *

Materials:

Ball, Douglas, and Dan S. Turner. *This Fascinating Oil Business*. New York: The Bobbs-Merrill Co., Inc. 1965.

Jarrett, Henry. *Environmental Quality in a Growing Economy*. Baltimore: The Johns Hopkins Press, 1966.

Landsberg, Hans H., Leonard H. Fischman, and Joseph L. Fisher. *Resources in America's Future*. Washington, D.C. Resources for the Future, 1963.

Manners, Gerald. *A Geography of Energy.* London: Hutchinson University Library, 1964.

Miller, E. Willard. Mineral Fuels, Chapter 16 in Guy-Harold Smith, Ed., Conservation of Natural Resources. New York: John Wiley and Sons, 1971.

Scallon, R. Reed, "Impact of Air Pollution Regulations on Coal," Mining Engineering, 22 (Aug. 1970) 67-70.

Schurr, Sam H. and Bruce C. Netschert, Energy in the American Economy, 1850-1975. Washington, D. C.: Resources for the Future, 1960.

Squires, Arthur M., "Clean Power from Coal", Science, 169 (Aug. 1970) 821-828.

Zimmerman, Erich W. Conservation in the Production of Petroleum. New Haven: Yale University Press, 1957.

Conservation Yearbook. Washington, D.C.:Department of Interior, Annual.

Minerals Yearbook. Washington, D. C.:U. S. Bureau of Mines, Annual.

U.S. Energy Policies: An Agenda for Research. Washington, D. C.: Resources for the Future, 1968.

The mineral magazines such as Coal Age, Mining Engineering, Mining Congress Journal, Oil and Gas Journal, and World Petroleum present a wide variety of up-to-date material on the energy industry.

C-5-253

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management and Preferences.

Title: "The Ability of Modernized Maritime Systems to Benefit American Cities; Focus on New York."

Descriptor: How can the lower Manhattan waterfront be best utilized now that containerization has rendered so many piers obsolete? What is the impact of port activity on bridge and tunnel congestion? How can subway crowding, traffic congestion, and lack of parking space be relieved? How can the city find space to build critically needed housing and office space? The space occupied by the over-age piers and sheds which line the lower waterfront might provide the answers. If the city could agree upon budget priorities, space allocation, and readjustment of waterfront jobs, a new method of building a transportation corridor beneath an integrated system of parks, air rights buildings, garages and terminals for a modernized, marine harbor freight transportation system might provide a starting point.

Discussion Leader: Richard W. Black, Office of Advanced Ship Operations, Maritime Administration, Dept. of Commerce.

* * * * *

Discussion Strategy and Plan:

(a) Develop a rationale for allocation of new waterfront space.
(b) Suggest ways to help overcome the opposition of waterfront labor unions to non-marine use of pier space.
(c) Discuss cross-training of longshoremen in appropriate aspects of construction work.
(d) Evaluate the importance of New York's geographical location at the base of the Hudson Valley, with access to Long Island Sound and a harbor with 220 miles of waterfront within the city limits giving balanced consideration of commercial, residential, recreational, and environmental aspects.

List of Illustrations

Fig. 1 - Photos: Aerial View of Lower Manhattan [1]

Fig. 2 - Three Dimensional Model: New York Regions; Population Distribution. [2]

Fig. 3 - Graph: "Jobs in the Manhattan CBD 1959, 1965, 2000"[2]

Fig. 4 - Statement of the Problem

Fig. 5 - Map: "Growth of Manhattan Island 1650 - 1980"[3]

Fig. 6 - Perspective Drawing: "Typical Container Terminal"[4]

Fig. 7 - Rendering: Perspective View of Future Waterfront [3]

Fig. 8 - Perspective Drawing: Air Rights Waterfront Structures [5]

Fig. 9 - Drawing: "Float-in Construction Technique"[4]

Fig. 10 - Drawing: "Factory Ship"[4]

Fig. 11 - Perspective Drawing: "Sea Shed System; Shed Float Concept"[4]

---

[1] Courtesy of New York Port Authority

[2] Courtesy of Regional Plan Assn; "Urban Design Manhattan"

[3] Courtesy of New York City Planning Commission; "The Lower Manhattan Plan"

[4] Courtesy of Maritime Administration; Department of Commerce

[5] Courtesy of Ronald Adams; Parsons Brinkerhoff, Quade & Douglas, Inc.

Outline:

Figure 1 shows how lower Manhattan is ringed with piers, underutilized or vacant, and how its bridges are limited in number by the size of the rivers.

Figure 2 illustrates the drastic concentration of population on Manhattan.

Figure 3 (a) projects that for the Manhattan Central Business District, from 1965 to 2000, manufacturing jobs will drop 50%, but office jobs will rise 67% (total employment up 29%).
(b) Manhattan's share of the total port longshore jobs dropped from 33.4% in 1959 to 26.3% in 1965 (a loss of 362,000 jobs).

Figure 4 lists the problems which create a demand for better transportation, parking, housing and office space, but which curtail revenue needed for civic action.

Figure 5 shows how the growth of the island by fill could make room for critically needed civic improvements, but would wipe out piers.

Figure 6 shows why container operations require space that Manhattan cannot provide (need 70% more land per berth, but provides 3 to 4 times better productivity than conventional piers).

Figure 7 shows how the lower Manhattan plan envisioned waterfront rehabilitation for offices, apartments, recreation and better transportation.

Figure 8 shows one way of planning a highway, subway, parking, and warehousing in a transportation conduit with "hydro-space" formally occupied by piers and used as a base for air-rights structures.

Figure 9 illustrates a float-in technique for building a system of such conduits from giant sub-assemblies built by highly mechanized methods in a shipyard drydock (based on a proposal by Ronald Adams for adapting methods used in tunnel building by Parsons, Brinkerhoff, Quade and Douglas Inc.)

Figure 10 illustrates a type of floating housing factory installed in a Reserve Fleet Liberty Ship which could fabricate pre-stressed concrete panels at low cost, and which, working from the waterside, and supplied by barges could avoid adding to the local street traffic.

Figure 11 shows a type of advanced intra-harbor tug barge system which could reduce congestion by relieving bridges and tunnels of maritime generated truck traffic.

AERIAL VIEW OF LOWER MAHATTAN

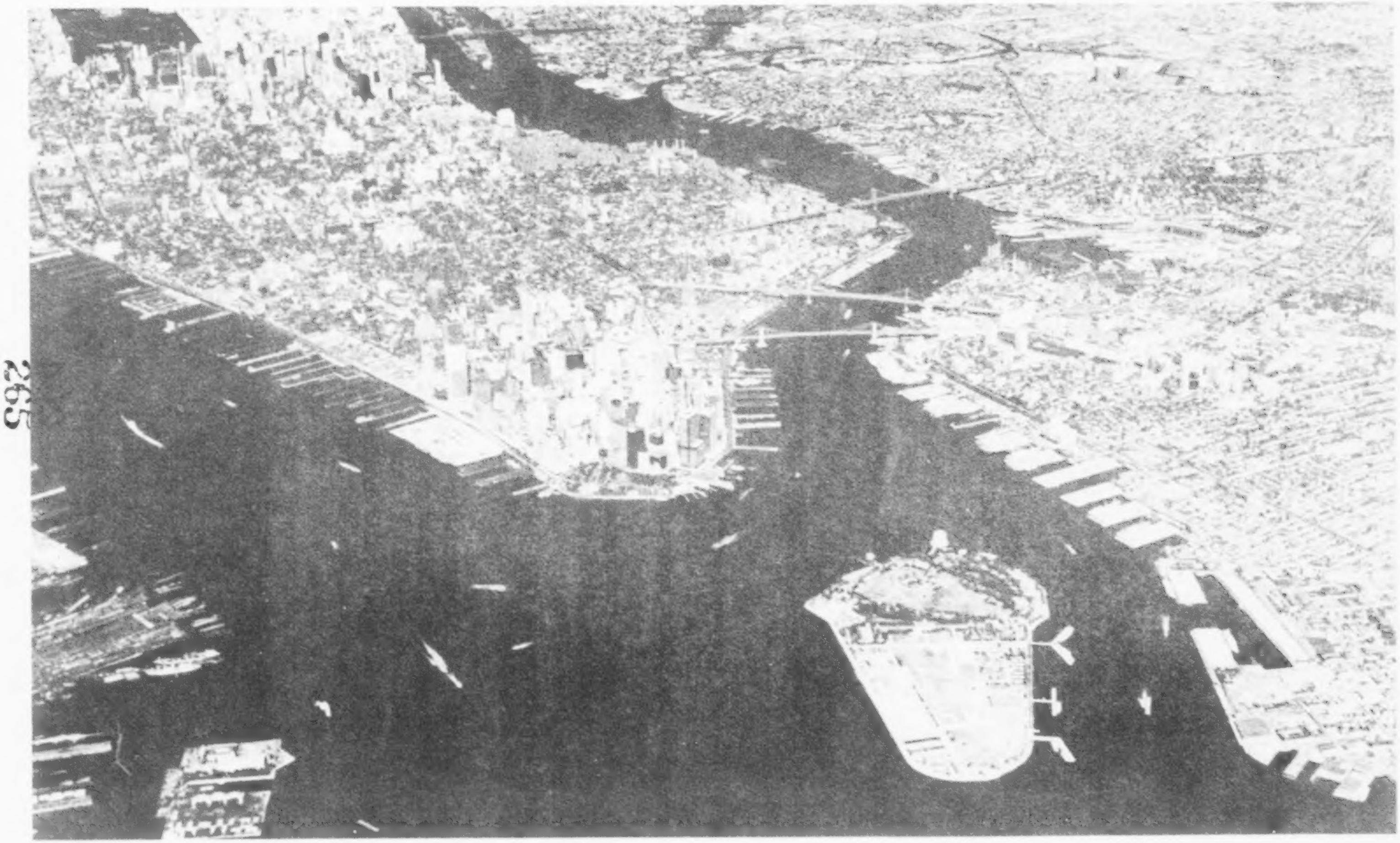


Figure 1

NEW YORK REGIONS; POPULATION DISTRIBUTION

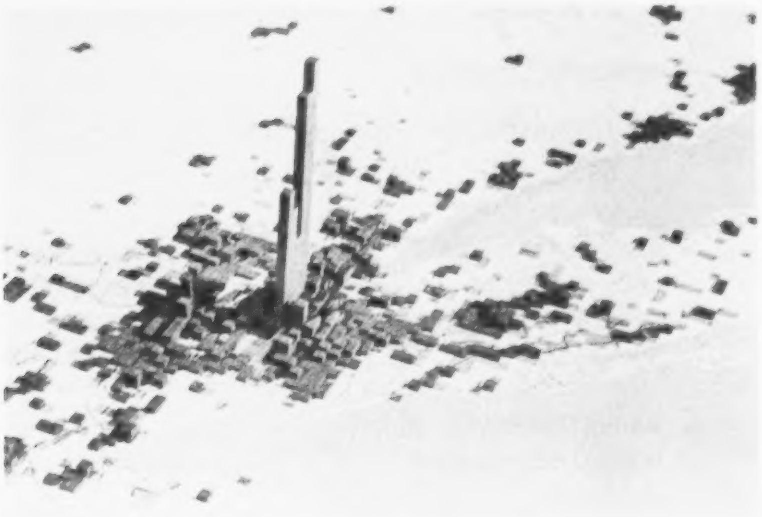


Figure 2

JOBS IN THE MANHATTAN CBD 1959, 1965, 2000

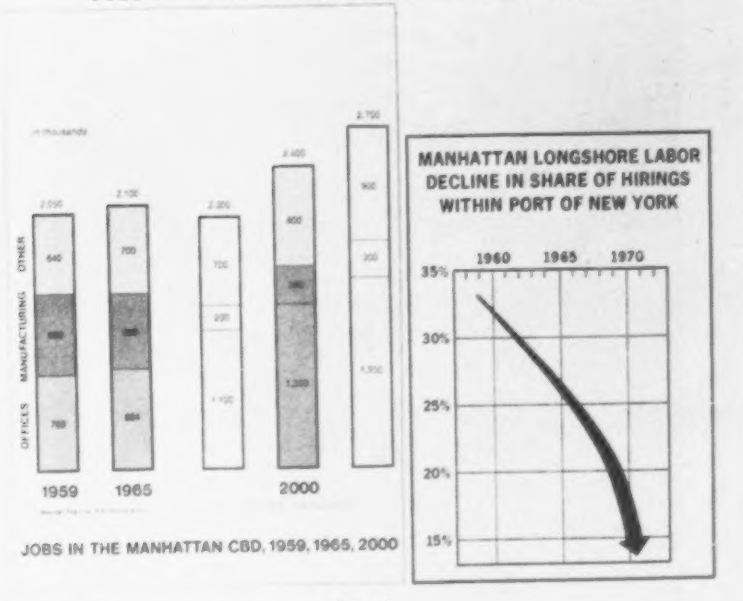


Figure 3

C-5-258

STATEMENT OF THE PROBLEM

- NEW YORK CITY NEEDS:

  1/4 MILLION NEW HOUSING UNITS
  55 MILLION FT^2 NEW OFFICE SPACE

- CONGESTED TRAFFIC
  LACK OF PARKING
  OVERLOADED SUBWAYS
  HIGH RENTS
  RESULT: INDUSTRY, BUSINESS & RESIDENTS LEAVE; REVENUE DROPS WELFARE COST RISES

- MANHATTAN WATERFRONT IS RELATIVELY UNUSED
  RESULT: LONGSHOREMEN IDLE PIER IN DISREPAIR

Figure 4

GROWTH OF MANHATTAN ISLAND
1650-1980

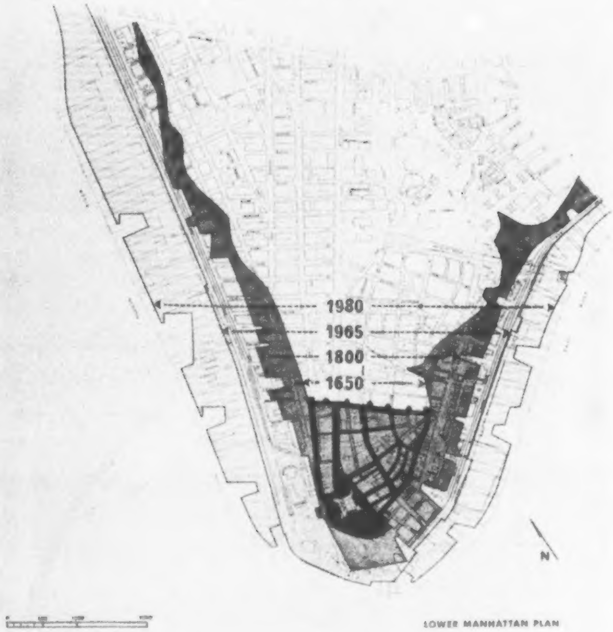


Figure 5

TYPICAL CONTAINER TERMINAL

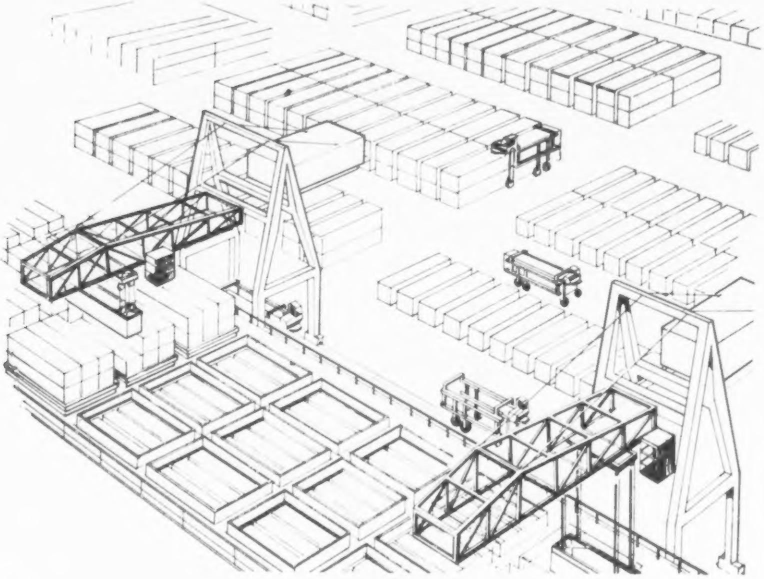


Figure 6

PERSPECTIVE VIEW OF FUTURE WATER FRONT

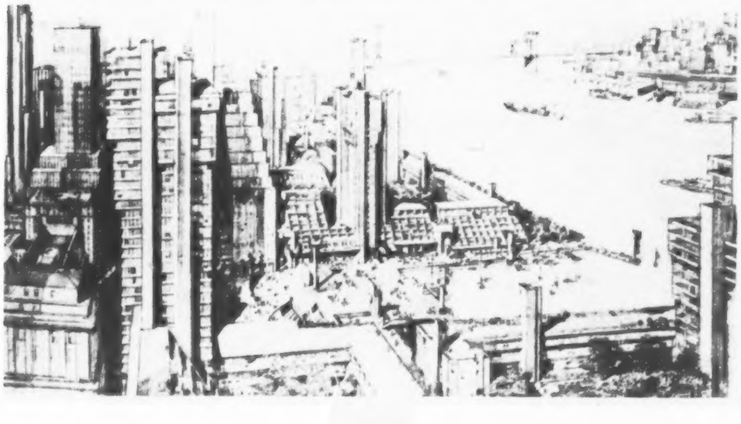


Figure 7

AIR RIGHTS WATERFRONT STRUCTURES

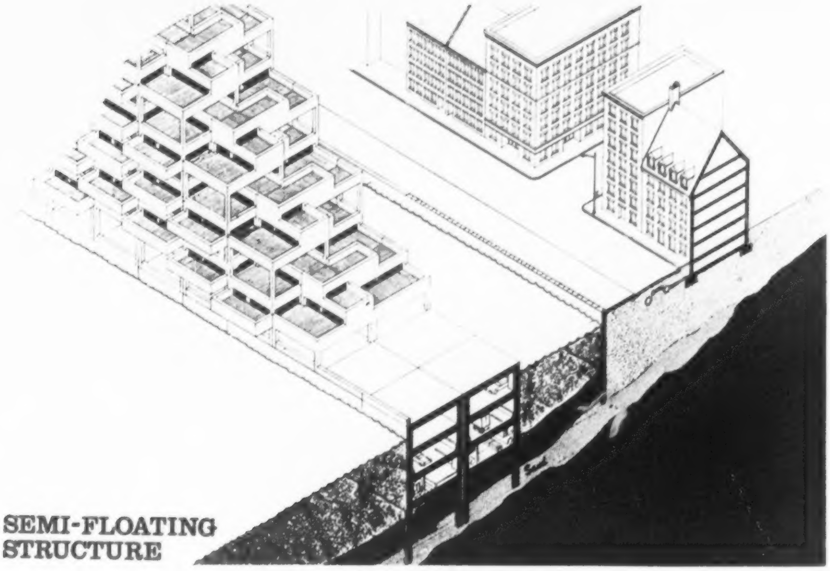

SEMI-FLOATING STRUCTURE

Figure 8

FLOAT-IN CONSTRUCTION TECHNIQUE

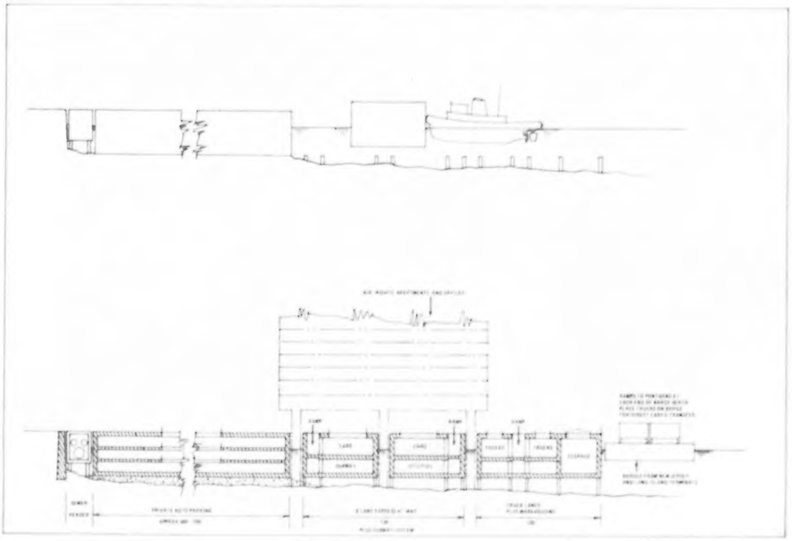
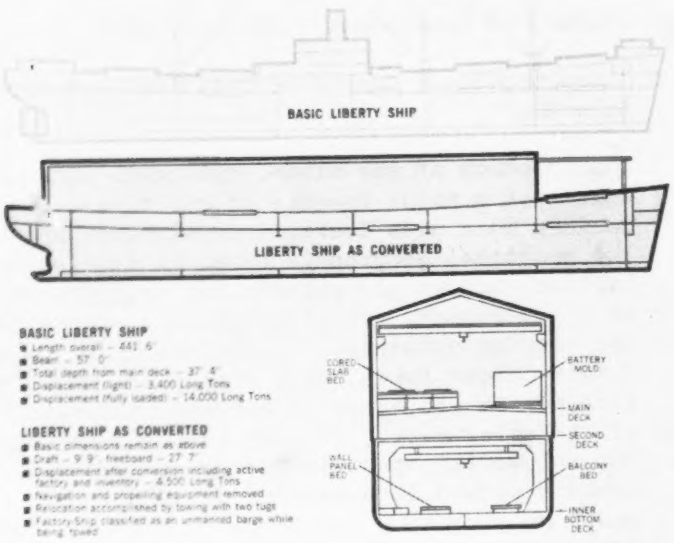

AIR RIGHTS APARTMENTS AND OFFICES
RAMP
CARS
RAMP
CARS
RAMP
TRUCKS
TRUCKS
STORAGE
SEWER HEADER
PRIVATE AUTO PARKING
TRUCK LANES PLUS WAREHOUSING

Figure 9

FACTORY SHIP


BASIC LIBERTY SHIP
LIBERTY SHIP AS CONVERTED
CORED SLAB BED
BATTERY MOLD
MAIN DECK
SECOND DECK
WALL PANEL BED
BALCONY BED
INNER BOTTOM DECK

BASIC LIBERTY SHIP

- Length overall – 441' 6"
- Beam – 57' 0"
- Total depth from main deck – 37' 4"
- Displacement (light) – 3,400 Long Tons
- Displacement (fully loaded) – 14,000 Long Tons

LIBERTY SHIP AS CONVERTED

- Basic dimensions remain as above
- Draft – 9' 9", freeboard – 27' 7"
- Displacement after conversion including active factory and inventory – 4,500 Long Tons
- Navigation and propelling equipment removed
- Relocation accomplished by towing with two tugs
- Factory Ship classified as an unmanned barge while being towed

Figure 10

SEA SHED SYSTEM

SHED FLOAT CONCEPT

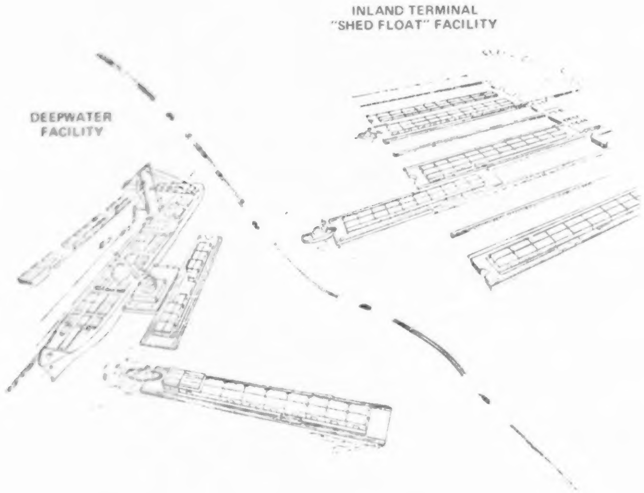

INLAND TERMINAL
"SHED FLOAT" FACILITY
DEEPWATER FACILITY

Figure 11

C-6-262

Issue:	Political Power: The Games People Play.
Topic:	Responsive Government: Who Decides?
Title:	"Insurrection: Gamble or Political Geographic Strategy."
Descriptor:	Insurrection at the urban, national, and college scales is a major feature of our times. Guerrilla Warfare is a game designed to simulate and teach the political geographic bases of strategy and tactics employed in gaining and maintaining control of a government. It illustrates how a small force can use the geometry of political space to harass a much larger force, gain strength, and eventually threaten if not actually succeed in taking control of the government. It also demonstrates how political and social space is functionally divided into meaningful and less meaningful areas. For example, space or geography is clearly not homogeneous nor is homogeneous space necessarily desirable. What then are the most important aspects of space for a successful guerrilla war--remote areas away from the government? Or?
Discussion Leader:	Robert W. McColl & Beverly Buchert, University of Kansas, Lawrence, Kansas.

* * * * *

Guerrilla Warfare Game: Teaching Strategies

To simulate the "political" aspects of insurrection a variety of approaches may be used in playing the game. For example, the game may be played by only two players, each making his own incontrovertable decisions. However, more exciting, and more realistic, is to create teams for each side. These teams must then decide upon who is to be the leader, how the men are to be divided or allocated, and how each move should be made. In short, personal social-conflict will enter and later can be analyzed along with the best moves and strategies for success. It is difficult to fully apply in the game a conceptual framework in a one hour period. It is better to use at least 3 class periods. The alternative is to have two people familiarize themselves with the game, rules and their own various strategies. They then play the game before the class and discuss their strategies and reasoning. The rest of the class participates vicariously and may make their own judgments and strategies. Using materials found in Geographic literature[1] and general treatises on the subject students may begin with established ideas of how best to procede, or they may also develop their own strategies and tactics and then test or compare these with actual case studies.

---

[1] R. W. McColl, "The Insurgent State: Territorial Bases of Revolution," Annals of the Association of American Geographers, Vol. 59, No. 4, Dec. 1969, pp. 613-631.

Questions to ask:

1. Contrast the guerrilla game and chess or checkers. What are the basic differences? (It should be noted that in chess and checkers play is for men. In guerrilla warfare play is also for men, but more importantly for the control and use of space or territory.)

2. Devise a geographic strategy for a successful guerrilla or counter-guerrilla action.

3. What areas of the board are most useful in attacks upon the government? Why?

4. Do areas of the board change value according to the number of men or stage of attack?

GUERRILLA WARFARE[1]

[1] (c) Robert W. McColl, 1971.

Guerrilla Warfare is a game of strategy and tactics. It teaches how a small force of only 5 men can expand its numbers and often defeat the initially superior forces of the government. It is an analog of reality and has been used both in original research and university classes in political geography.

Not only does Guerrilla Warfare teach political geography but it also is closely related to topology in mathematics. It teaches the complexity of surfaces and areas.

Finally, Guerrilla Warfare is a game of fun and action!

How to Win

The object for the government is to "Kill" the guerrillas or to "control" its own territory in such a way that the guerrilla cannot capture the cities, the capital or the power and radio-TV stations. The government may do this through clever strategy or by reducing the guerrilla forces to less than 8 men (once the guerrilla has attained at least 20 men). This is because the guerrilla would then be forced to, in effect, start a new game.

The object for the guerrilla is to capture control of the capital city. If the capital "falls" all the other elements (cities, radio-TV and highways) would also then belong to the guerrilla. The guerrilla may also win if he can reduce the government troops to 13 men at any one turn. This is because the loss of 12 men to the government would mean a reduction of at least 50% in its forces and this would demoralize its population and shift to support the guerrilla.

Glossary of Terms

ATTACK - Any time one side "attacks" another he must draw a card from the "attack," "radio-TV," "A," or "B" cards to see what the result of the "attack" was in terms of adding new men or losing men. If the guerrilla should attack a man on a highway, he must draw 2 "attack" cards, one for the man and one for the highway. If he should attack the radio-TV station, power station, city "A" or city "B". these are occupied by a government man and he must also draw 2 cards, an "attack" for the man and another card (A,B, etc.) for the object attacked. A government counter-attack need draw only the card for the city or station.

CAPTURE - When either side completely encircles any number of intersections, they are considered under CONTROL. The men inside a controlled territory must "kill" at least one half of the controlling men before they may escape. (See Figure 4).

CONTROL - When one player "controls" a portion of the board, any men inside that territory are essentially out of play until at least one half of the controlling men are removed in some manner. If they are within one point of all the men inside, those men are considered "attacked." A card is then drawn to see if they have been"killed."

JUMPING - A player may jump his own men but only along a highway. No jumping of men is permitted unless they are a part of a guerrilla's 2 or 3 move options. No jumping is permitted when territory is under control or along a highway if it is controlled by 3 or more men of the opposite side.

Moves Along the Highways

Moves along the highway initially are limited to government men. They may move out from the capital any distance and one point on either side of any highway. They must pause one turn in city A, city B, the radio-TV and power stations before they can move out.

Before a man can move to a highway in another quadrant of the board, he must first pause one turn in the capital. However, men in the capital or along its margins may move out on any highway they choose.

It is possible to jump any or all men on a highway unless it has been"closed" by 3 or more men from the opposing side. In this case each man must first be "killed" before the highway is considered open again.

The GUERRILLA may use the highway in the same manner as the government (once he has 20 men).

A move to city A or B cannot go "outside" the city until the next turn. This is not true for the power or TV stations.

PLAY

Opening

The GOVERNMENT starts with 25 men. He must place these in such a manner that the capital city is completely controlled and the radio-TV and power stations along with city A and city B are protected (not necessarily controlled). (See Figure 1.) He may place the remaining men wherever he pleases.

The GUERRILLA begins with only 5 men. He may place these in any location he desires.

MOVES

All moves must be horizontal or vertical, except along the highway.

First Move - The GUERRILLA makes the first move. He may move any of his men 1, 2, or 3 points in any direction except diagonally. For every attack he must draw an "attack" card to see the result. If he adds a man, this man must be entered from any corner of the board 1, 2, or 3 points at the end of his turn and before the GOVERNMENT'S turn. (See Figure 2.)

Second Move - The GOVERNMENT may move his men (any or all) only one point at a time except along the highways where he may move as far as he wishes and one point off the highway itself. If any goverment men have been "killed," they may not be returned to play until the end of the Government's next turn. (See Figure 3)

If city A or city B are captured or controlled, the GOVERNMENT may decide to give them up to the GUERRILLA. However, only one city may be given up. The radio-TV and power stations must always be held. Therefore if the GUERRILLA controls these, the GOVERNMENT must counterattack.

Play continues in this fashion until the GUERRILLA HAS 12 men. At this point, the GUERRILLA must reduce his moves to no more than 2 points per man per turn. CARDS are still drawn for all attacks.

Man for Man Play

Once the GUERRILLA has 20 men, play is "man for man." No more cards are drawn. If the GUERRILLA "kills" a man, that man is now lost from play and the player or GOVERNMENT gains an additional man.

Men gained in this fashion are entered as follows:

GOVERNMENT men are added in the capital only.

GUERRILLA men can be added from any corner, along the diagonal highway, or from city A or city B if the GUERRILLA first occupies the city and at least two positions on the road itself.

As men are added, they may "kill" more men but these new men may only be added after the next turn. That is, if a GUERRILLA man "kills" a GOVERNMENT man, the GUERRILLA gains one man who may in turn "kill" another GOVERNMENT man as it is put into play. The new man gained through this last "kill" cannot be placed into play until the GUERRILLA'S next turn.

If the GUERRILLA Should Fall Below 15 Men

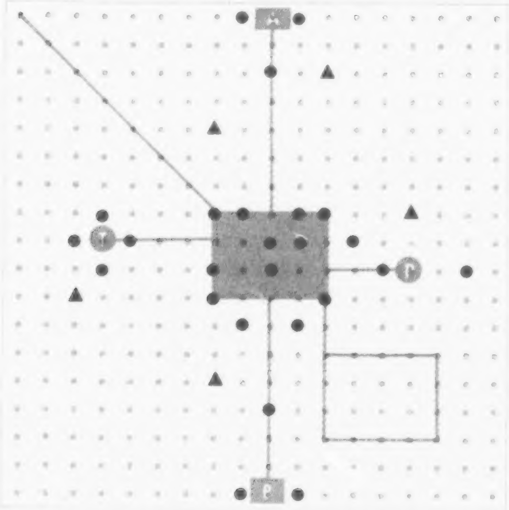
Once play has become "man for man," cards are not drawn again for any reason. However, if the GUERRILLA forces should be reduced to 15 men, the GUERRILLA may return to a maximum of two moves per man per turn. However, he may not use the highways unless he can control them with three or more men.

PLAY continues man for man until the GUERRILLA reduces the GOVERNMENT to 13 men (even if the GOVERNMENT holds more men in his hand for his next turn, they do not count) or until the GUERRILLA is reduced to 8 men (even if he holds more men but they are not yet in play) or until the GUERRILLA can control the capital.

FAST GAME

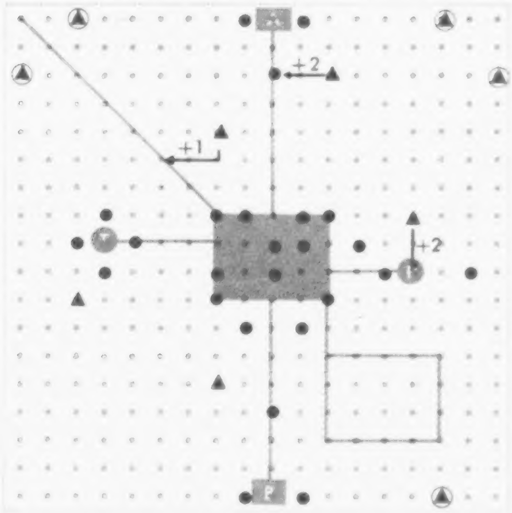
The GUERRILLA starts with 10 men thus by-passing the initial phase of manpower building. The GOVERNMENT places its men in any configuration it chooses. The GUERRILLA then places his 10 men. FIRST MOVE is the GOVERNMENT'S. The GUERRILLA is limited to 2 moves per man per turn. The rest of the rules remain unchanged.

OPENING POSITIONS



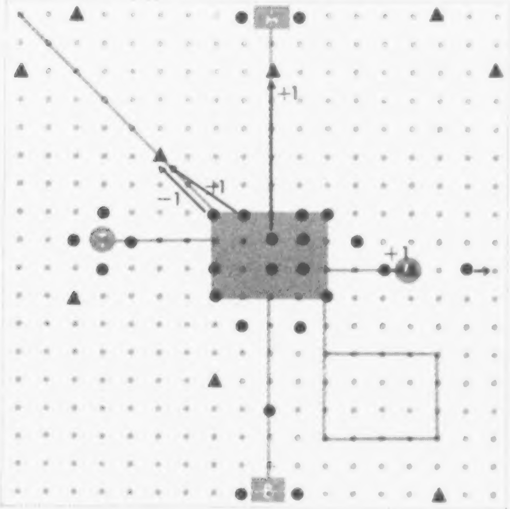
▲ Guerrilla
Ⓐ New Guerrilla Added
● Government Men
+ Successful Government Attack
— Unsuccessful Government Attack (loss of men)

FIRST MOVE (GUERRILLA)



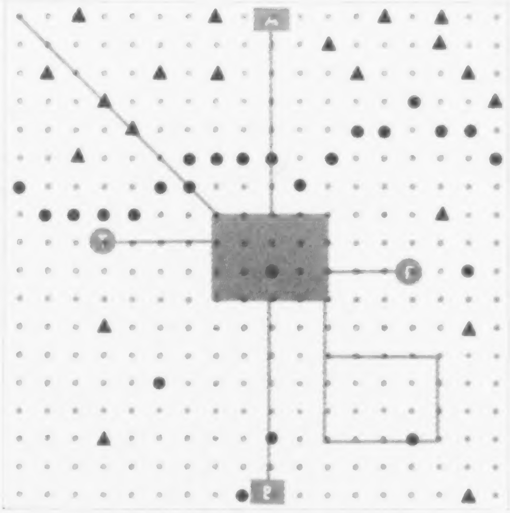
In this move the Guerrilla gains 5 men.
He has held 2 men in reserve to maintain
their access to key targets.
The Government has lost one man.

FIRST MOVE (GOVERNMENT)



The Government loses l man in an attack
along the highway.
The Government kills 3 Guerrilla men.
Government may now replace men lost during
last turn, but must place them in the capital.

END PLAY



The majority of Guerrilla men are "controlled"
Only 5 men remain outside the Government trap.
The result is that the Guerrilla must start a new game.

▨ Urban Areas — Transport Routes T Television Station P Power Station

C-6-268

Issue: Political Power: The Games People Play.

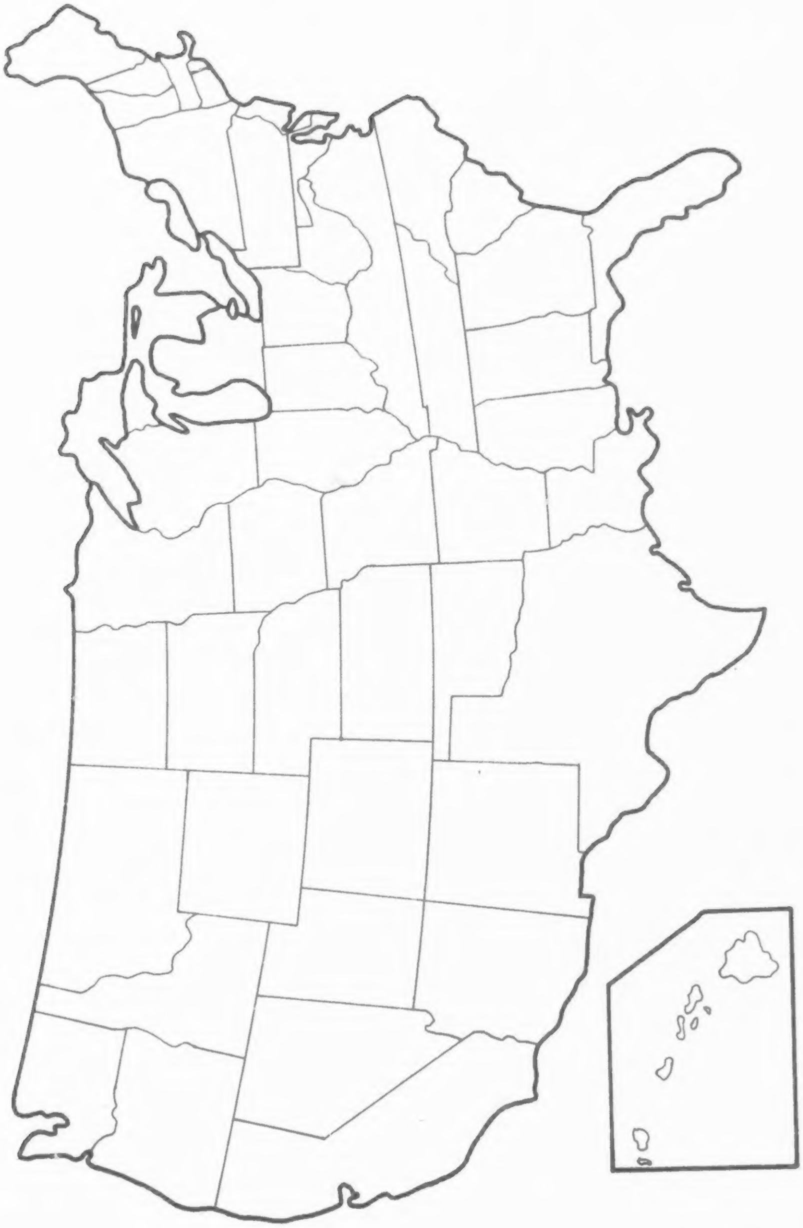
Topic: Responsive Government: Who Decides?

Title: "How to Change the Game: Can the Black Caucus be Influential for Responsive Government for Black America."

Descriptor: What is a Responsive Government? How possible is this for Black America? What type of program(s) within the existing political structure could make this possibility a truism? Should an information dissemination structure, for the Caucus and the Black electorate, be an integral part of the program? How would you, as a geographer-educator-human, set up this information dissemination structure on a regional basis? Using this motion, cognative and effective learning situations will be employed and examined.

Discussion Leader: Robert C. Wright, Clark University, Worcester, Mass.

C-6-269



C-6-270

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "Decision-Making in Political Geography: The Problem-Solving Approach."

Descriptor: The underlying thesis of this presentation is that with increasing opportunities to participate in political decision-making, today's youth must master the techniques and tools of scientific analysis in order to effect a more responsive government. For this demonstration, actual problem-solving exercises will be illustrated as vehicles for teaching the value of problem solving in a political and spatial context.

Discussion Leader: Lloyd Haring, Professor of Geography, Arizona State University, Tempe, Arizona.

* * * * *

These materials have been reprinted from Problem Solving in World Geography by Lloyd and Marilyn Haring, a text of approximately 40 problem-solving exercises of a spatial nature. The exercises are appropriate for introductory courses in world regional geography or principles of geography; they may be used as a supplement to a descriptive text or as a basic text when accompanied by lectures and discussions. The World Almanac and atlas provide data for use in the exercises. They are suitable for homework or laboratory purposes and serve as the basis of class discussion.

Reprinted from Problem Solving in World Geography by Lloyd and Marilyn Haring
By Permission of Education Associates, P. O. Box 26255, Tempe, Arizona 85282

VIII - ASIA (B)

_____Date Due ______________________________Name

PROBLEM: What is the potential political strength of the countries in the Far East, relative to each other?

I. Assess the potential political strength or importance by doing the following:

A. Complete the table by gathering the statistics from "Data for Selected Asian Countries." Rank each country in each category with rank #1 being the greatest in all cases.

STATISTICS FOR FAR EAST COUNTRIES

Country	% of World Steel	Rank	Pop. (000)	Rank	Area	Rank	Life Span	Rank	Lit.	Rank
Com. China	4.0									
Taiwan	.4									
Japan	6.0									
South Korea	--									
North Korea	.5									

B. Compute each country's potential political importance (as compared to the others listed) by working the formula given below. Be sure to use ranks in working this formula or index.

Potential Political Importance (PPI) = $(1/4)X_1 + X_2 + X_3 + X_4 + (1/2)X_5$

X_1 = Rank of Steel Output
X_2 = Rank of Population
X_3 = Rank of Area
X_4 = Rank of Life Span
X_5 = Rank of Literacy

C. List the five Far Eastern countries according to their potential political importance, with the lowest score being #1 and the highest being #5:

PPI	Score	Country
1		
2		
3		
4		
5		

In the above table, place an asterisk (*) to the right of each country which is an ally of the United States.

D. Which of the five factors (X_1, X_2, etc.) was considered most important in determining the potential political importance of the countries?

X
6. 1 2 3 4 5

II. Compute a rank-order correlation for steel and literacy.

A. What is the correlation? 7.________

B. What term describes its significance? 8.________

C-6-272

Reprinted from Problem Solving in World Geography by Lloyd and Marilyn Haring
By Permission of Education Associates, P.O. Box 26255, Tempe, Arizona 85282

VIII - ASIA (C)

_____Date Due ______________________________Name

PROBLEM: How do the countries of the Far East compare in their standards of living?

I. Compare the standards of living in the Far East by doing the following:
A. Consult "Data for Selected Asian Countries" and complete the table.

STANDARD OF LIVING OF FAR EASTERN COUNTRIES

Country	Output Per Person	Rank	People Per Teacher	Rank	People Per Phone	Rank	People Per TV	Rank
Com. China								
Taiwan								
Japan								
South Korea								
North Korea								

Note: Rank #1 should be assigned to the best in each category (that which indicates the highest standard of living.) A review of the material concerning tables and ranking in this text is suggested.

B. Devise your own formula or index for best measuring the standards of living using the ranks of the four factors in the table above. Record the formula here:______________________________

C. Compute the standard of living statistics with your formula.

D. List the five Far East countries in the order of their standards of living (#1 is the highest living standard.)

1.____________
2.____________
3.____________
4.____________
5.____________

Reprinted from Problem Solving in World Geography by Lloyd and Marilyn Haring
By Permission of Education Associates, P. O. Box 26255, Tempe, Arizona 85282

X - EUROPE (E)

_____Date Due ______________________________Name

PROBLEM: Does war affect the spatial distribution of political ideologies?

I. Follow these steps to investigate one aspect of the above problem.
   A. Background: Prior to World War II, the only Communist country in Europe was the Soviet Union.
   B. Problem: Did Communism spread as a result of war?
   C. Hypothesis: As a result of World War II, Communism as measured in terms of territory and numbers of people increased in Europe.
   D. Data:
      1. On the map, shade lightly in red all countries which have Communist governments.
         Note: Use the original member states of the Warsaw Treaty Organization (Warsaw Pact) as the operational definition of Communist states.
      2. Place diagonal blue lines on those countries which became Communist after World War II.
   E. Analysis:
      1. List in alphabetical order the European countries that became Communist in political changes following World War II.

1.______________
____
____
____
____
____
____

      2. How many millions of people presently live in those countries? 2.______________
      3. How many square miles are in those countries? 3.______________
      4. Was the Soviet Union on the winning or losing side in World War II? 4. Winning / Losing
   F. Conclusions:
      1. Do you accept or reject the hypothesis? 5. Accept / Reject
      2. Which of these would be the best hypothesis to guide the study of spatially distributed ideologies following any war?
         a. The political ideology of the loser disappears from all states following an unsuccessful war.
         b. Following a war, the actual "merit" of an ideology is the most significant factor in determining its spread or disappearance.
         c. The victor of any war tends to spatially perpetuate its political ideology.

6. a b c

S-1-274

Issue: Urbanization - Industrialization: Threat in the Twentieth Century?

Topic: The Transportation Maze: Passages and Portals.

Title: "Urban Removal and Concrete Corridors: Interstate 90 in Seattle."

Descriptor: This lesson is designed to develop pupil's concepts and knowledge of urban geography through examination of a freeway location problem in seattle, Washington. This is followed by an examination of the geographical features and the pattern of urban functions within and around Seattle. A set of alternatives is then developed concerning this proposal.

Discussion Leader: Richard Cole, University of Washington, Seattle, Washington.

* * * * *

I-90: Implementation Outline

OBJECTIVES: Urban geographical concepts, map utilization skills, data gathering skills, decision making skills.

Phase I. Familiarize pupils with the geography of Seattle and its surrounding region, the major transportation links, problems within the area, and the major areas of specialized functions. Examine and discuss the information in Figure 1, newspapers, street maps, etc. concerning the need for Interstate 90.

Phase II. Examine proposed freeway route "A" (Figure 2) and develop a rationale for this route. Develop a set of reasonable alternatives to the construction of this route at the present time as well as a set of logical consequences for each alternative. In addition, discuss the needs for greater access across Lake Washington. Examine and discuss the Seattle residential area most affected (Plates 1-4).

Phase III. A class decision (vote) on the listed alternatives (Figure 3) is formed through classroom debate or role-playing to generate broad understanding of the alternatives, their consequences, and the values involved in the consequences.

Phase IV. Present and discuss an alternate route located near the pupils' school (Figure 4). Review the listed alternatives and their consequences in relationship to route "B". Vote on this proposal.

Phase V. Discuss and review the differences and similarities found between the two votes as well as the broader implications of this experience.

Seattle, Washington

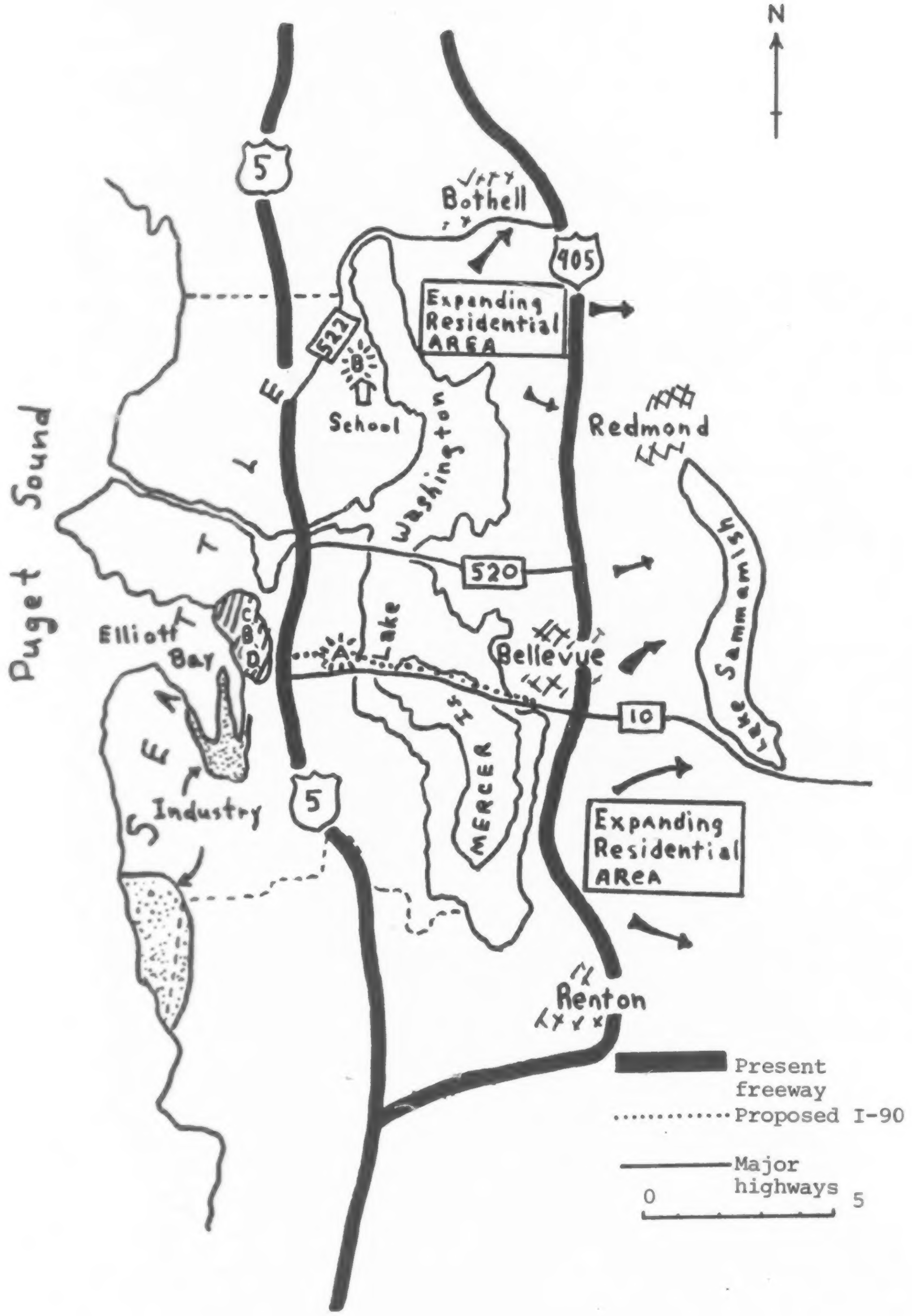
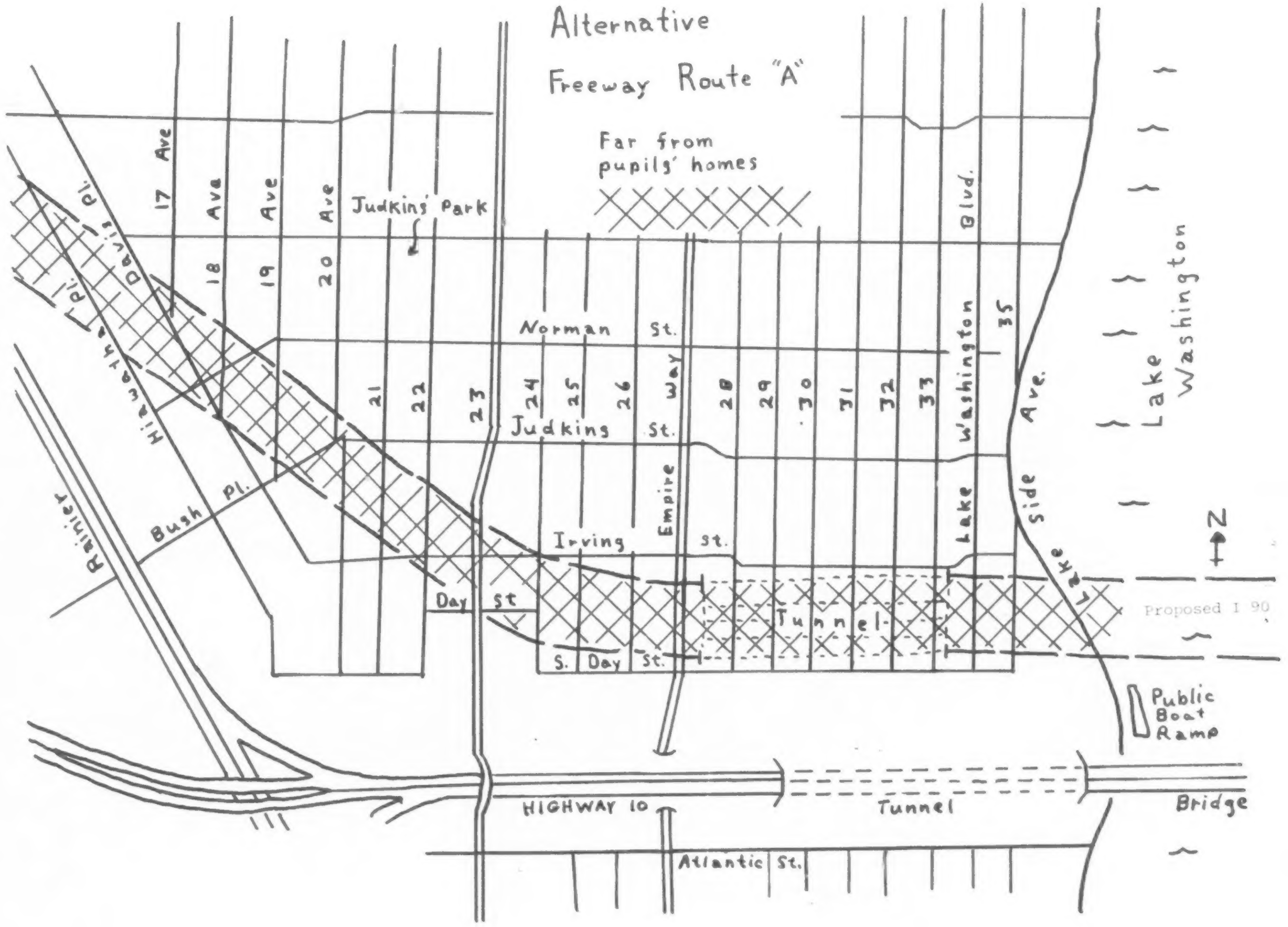

N
5
Bothell
405
Expanding Residential AREA
522
B
School
Redmond
Puget Sound
SEATTLE
Washington
520
Lake
Sammamish
Elliott Bay
CBD
A
Lake
Bellevue
10
MERCER IS
Industry
5
Expanding Residential AREA
Renton
Present freeway
Proposed I-90
Major highways
0
5

Figure 1


Alternative
Freeway Route "A"
Far from
pupils' homes
Judkins' Park
17 Ave
18 Ave
19 Ave
20 Ave
21
22
23
24
25
26
28
29
30
31
32
33
35
Davis Pl.
Hiawatha Pl.
Bush Pl.
Rainier
Norman St.
Judkins St.
Irving St.
Empire Way
Day St
S. Day St.
Lake Washington Blvd.
Lake Side Ave.
Lake Washington
N
Proposed I 90
Tunnel
Public Boat Ramp
HIGHWAY 10
Tunnel
Bridge
Atlantic St.

Alternative Freeway Route "A" Far from pupils' homes.

Figure 2

Student Ballot

Ballot Page 1

Cover

PLEASE, DO NOT OPEN

DIRECTIONS: Imagine that you are the person who must make the final decision concerning this proposal. Read each choice carefully, then mark one (1) of the seven possible choices.

Are there any questions?

Ask them now!

Ballot Page 2

Alternatives

1. ___ Build it there, now.
2. ___ Build it somewhere else, now.
3. ___ Build it here, later.
4. ___ Build it somewhere else, later.
5. ___ Study the issue more and decide later.
6. ___ Do not build one at all.
7. ___ I don't know and cannot decide.

Figure 3

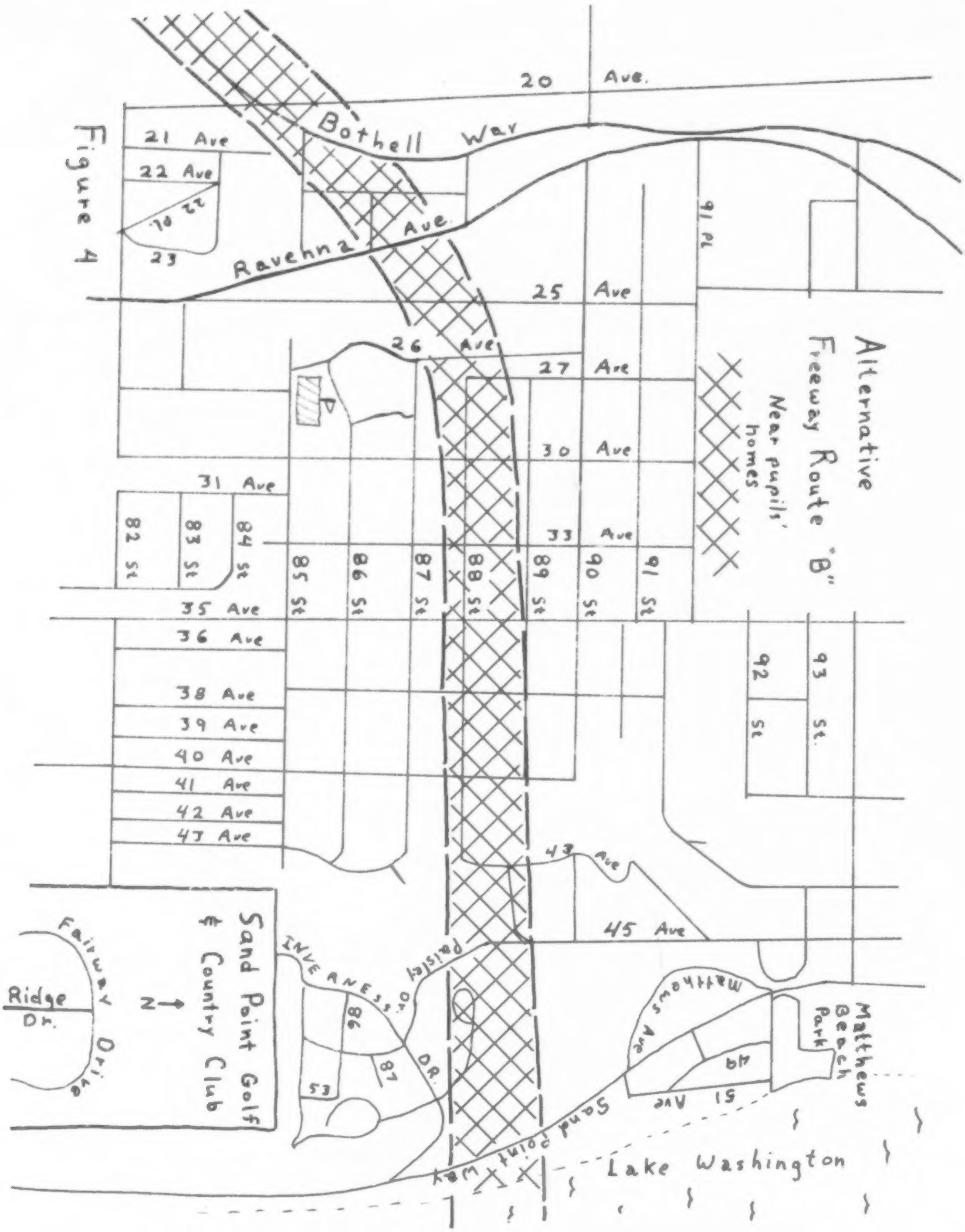


Figure 4
Alternative Freeway Route "B"
Near pupils' homes
20 Ave.
Bothell Way
21 Ave
22 Ave
22 Pl.
23
Ravenna Ave
91 Pl
25 Ave
26 Ave
27 Ave
30 Ave
31 Ave
33 Ave
82 St
83 St
84 St
85 St
86 St
87 St
88 St
89 St
90 St
91 St
35 Ave
36 Ave
92 St
93 St.
38 Ave
39 Ave
40 Ave
41 Ave
42 Ave
43 Ave
43 Ave
45 Ave
Sand Point Golf & Country Club
N
Fairway Drive
Ridge Dr.
Inverness Dr.
Paisley Dr.
86
87
53
Matthews Ave
Matthews Beach Park
49
51 Ave
Sand Point Way
Lake Washington

Figure 4

I-90:Seattle

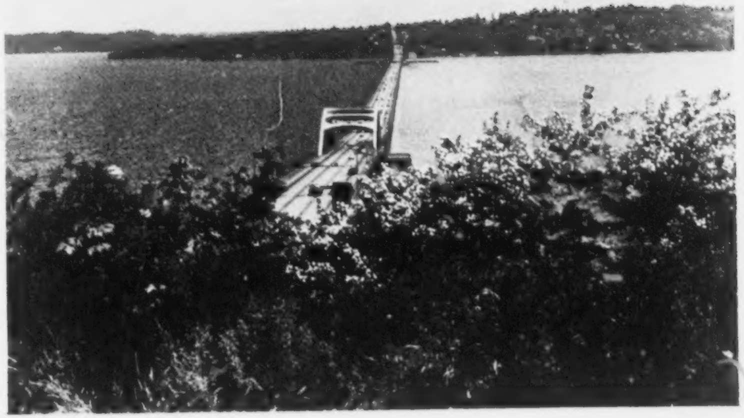
DO NOT ENTER

1.

2.

Plates 1, 2, and 3 are of Seattle neighborhoods
in the path of I-90

3.



4

Plate 4. I-90 bridge will parallel the present
Lake Washington Floating Bridge.

I-90:East Side

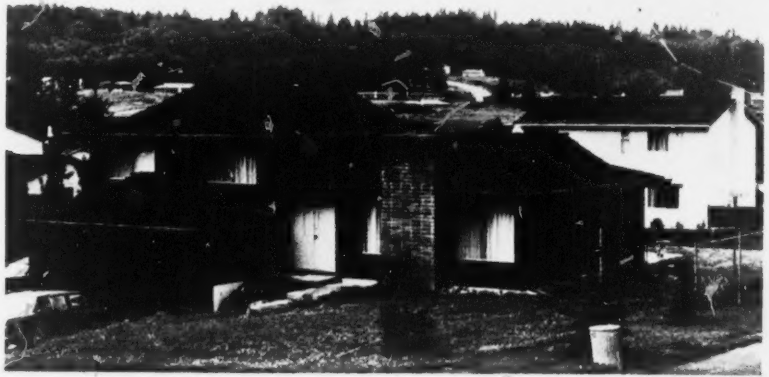
DRIVE IN LANES
WITH ↓ ONLY

5.

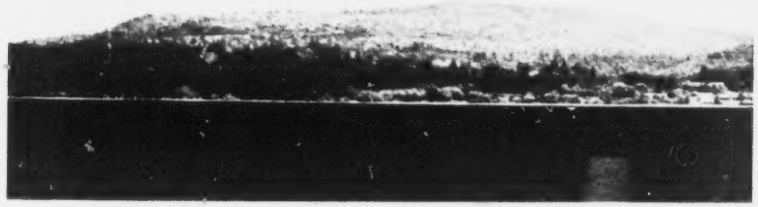
6.

End of construction - East side of Mercer Island

Completed to east edge of Lake Washington



7.



8.

Expanding residential land usage on east side of Lake Washingt

S-1-281

Issue: Urbanization-Industrialization: Threat in the Twentieth Century?

Topic: The Transportation Maze: Passage and Portals

Title: "Jetport in the Everglades: To Build or Not to Build?"

Descriptor: When conservation of natural resources and man's need for using land come into conflict, how is the issue resolved? Can protection of our natural environment and progress go hand in hand? These and other questions are raised in this decision making simulation in which students are asked to weigh the need for a new jetport against conservation in the Everglades National Park, Florida.

Discussion Leader: Edward Woodruff, The University School, Florida State University, Tallahassee, Florida.

S-1-282

JETPORT IN THE EVERGLADES: TO BUILD OR NOT TO BUILD
A Student Contract

A. Looking at the aerial photograph of Miami International Airport (M.I.A.), the student will identify verbally (or in writing):

   1. The major land use of the surrounding area.

   2. The main traffic corridors.

   3. Possible areas for expansion (if any): runways, buildings, etc.

   4. Hypothesize 3 major advantages and 3 major disadvantages of this site.

B. Using the aerial photograph of the training airport in the Everglades, the student will identify verbally (or in writing):

   1. The major land use of the surrounding area.

   2. Possible areas for expansion (if any): runways, buildings, etc.

   3. Hypothesize 2 major advantages and 2 major disadvantages of this site.

C. Given data for air traffic at Miami International, 1964-69; given a map of South Florida (any atlas or gasoline company road map); and told that the present airport (M.I.A.) may be unable to meet its demands by 1980, the student will:

   1. Suggest plausible answers to this question: "What are some possible solutions to handle successfully the air traffic in the Miami area?"

   2. Identify verbally (or in writing) one advantage and one disadvantage for each of his proposed solutions.

D. Given the possible solution to the Miami air traffic problem of a new airport in the Everglades; and a map of South Florida, the student will:

   1. Identify verbally (or in writing) 4 major advantages and 4 major disadvantages to this site as a possible solution to the problem.

   2. Weigh the advantages and disadvantages listed in D-1 above and decide whether he personally would build the new airport in the Everglades.

E. Given a handout with actual arguments used to influence the decision on a new Jetport in the Everglades, the student will:

1. Identify verbally (or in writing) each point as being a reason for building or for not building a Jetport in Everglades.

2. Group together all items identified as being in favor of construction of the Jetport in the Everglades.

3. Group together all items identified as being against construction of the Jetport in the Everglades.

4. Evaluate each item in groups E-2 and E-3 as to their significance in making a decision.

5. Weigh the two groups and decide whether or not the new Jetport should be constructed on a site in the Everglades.

6. Compare the response in E-5 above with the response given in D-2. Explain verbally (or in writing) why the responses differ/are still the same.

Optional:

7. Develop a control plan that would allow the Jetport to be built without destroying the natural habitat of the Everglades. Include in your plan:

   a. Types of transportation allowed and routes for this transportation.

   b. Zoning measures to control land use.

   c. Type of airport to be constructed: open, all purpose, or limited.

   d. Other points that are needed.

S-1-284

POSSIBLE ARGUMENTS IN THE JETPORT DISPUTE

1. The Jetport site is not close to urban centers of population or housing projects.
2. Noise levels will be reduced at Miami International by more planes using the Jetport.
3. Noise will not affect large numbers of people in the Everglades.

4. The Jetport would destroy South Florida's environment.
5. Fuel pipelines from Miami to the Jetport might break and pollute the whole area.
6. Culverts under runways, roads and other facilities would allow uninterrupted flow of water to the Everglades National Park.
7. Floods would cause birds and animals to seek shelter on the runways and drained areas.
8. Zoning regulations could be passed in each county to control land use near the Jetport.
9. Drainage of the land would result in drier conditions leading to forest and muck fires.
10. Insect control by use of pesticides would change the natural habitat.
11. The Seminole Indians would have their life style and culture changed.

12. The Everglades can be protected if no hangars, terminals, or parking lots are built: Mass transit systems would connect the runways with Miami International Airport.
13. New highways or transportation routes would be needed to connect with Miami.
14. Jet planes will experience a bird strike problem.
15. Runways can be made longer or lengthened without conflicting with other land use.
16. The Jetport would mean too many cars, people, and waste materials to be controlled.

17. Use of the airport for training flights would reduce flight traffic at Miami International by one-third and allow more commercial flights to land at Miami.
18. Traffic congestion at Maimi International Airport makes it difficult to continue use and also increase passenger traffic.

19. Urban growth toward the new airfield and changed land use would wreck the Everglades.
20. Development would lead to more drainage of the land, resulting in a changed habitat.

21. The same amount of land would not be available as cheaply in other locations.
22. Construction costs are cheaper in the Everglades than other possible sites.

23. Exhaust fumes from planes on takeoff contain compounds that pollute the air.
24. Exhaust fumes affects algae and algae is a principal link in the food chain.
25. Air pollution may result in increased fog conditions for the area.

26. A new supersonic jet airport will bring many benefits to the area's economy.
27. More businesses dealing mainly with Latin America will locate in the Miami area.
28. Supersonic planes would be able to fly at supersonic speed longer because their approach to the Jetport would be over water and the uninhabited Everglades.

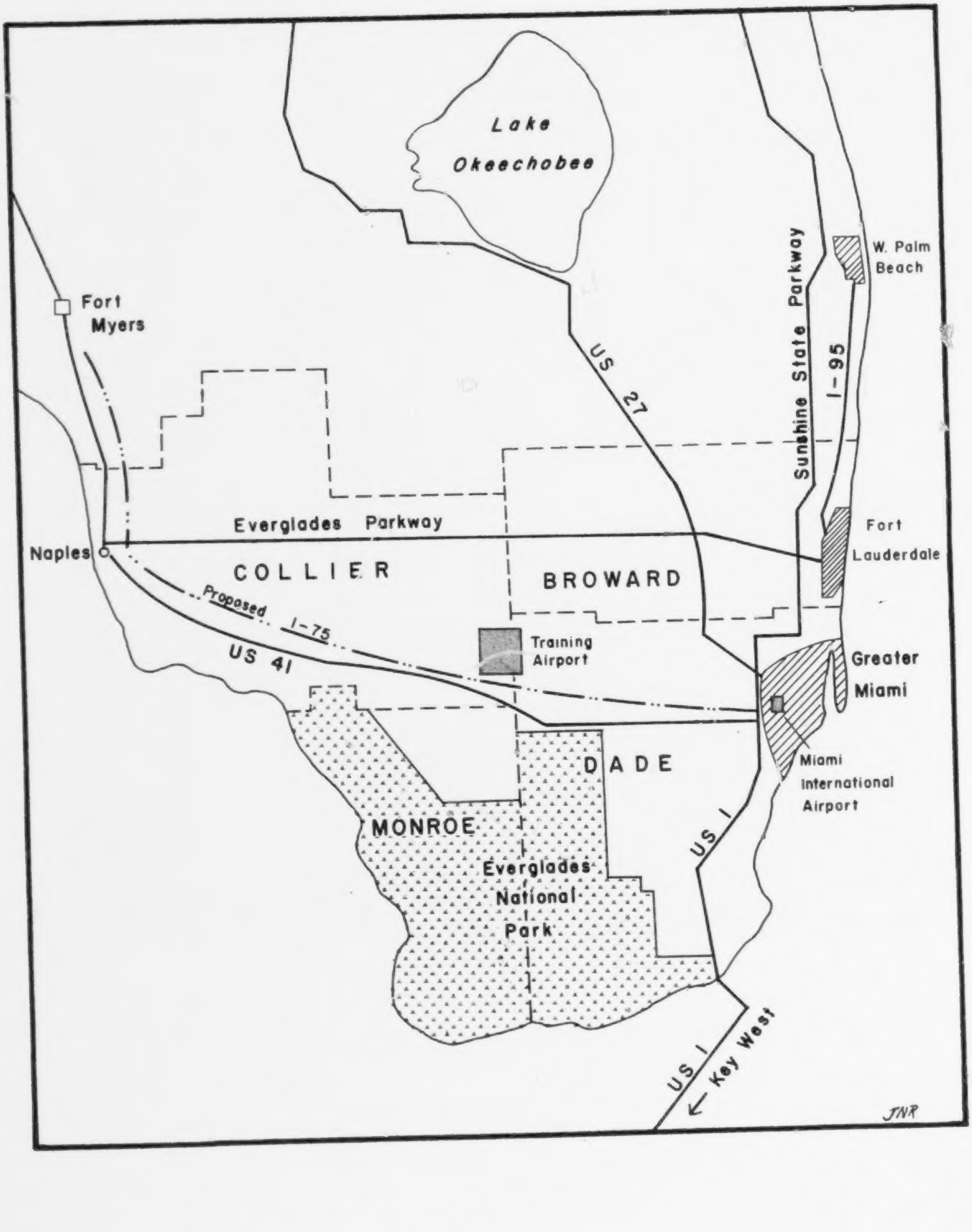
Miami International Airport
Traffic Data 1964-69

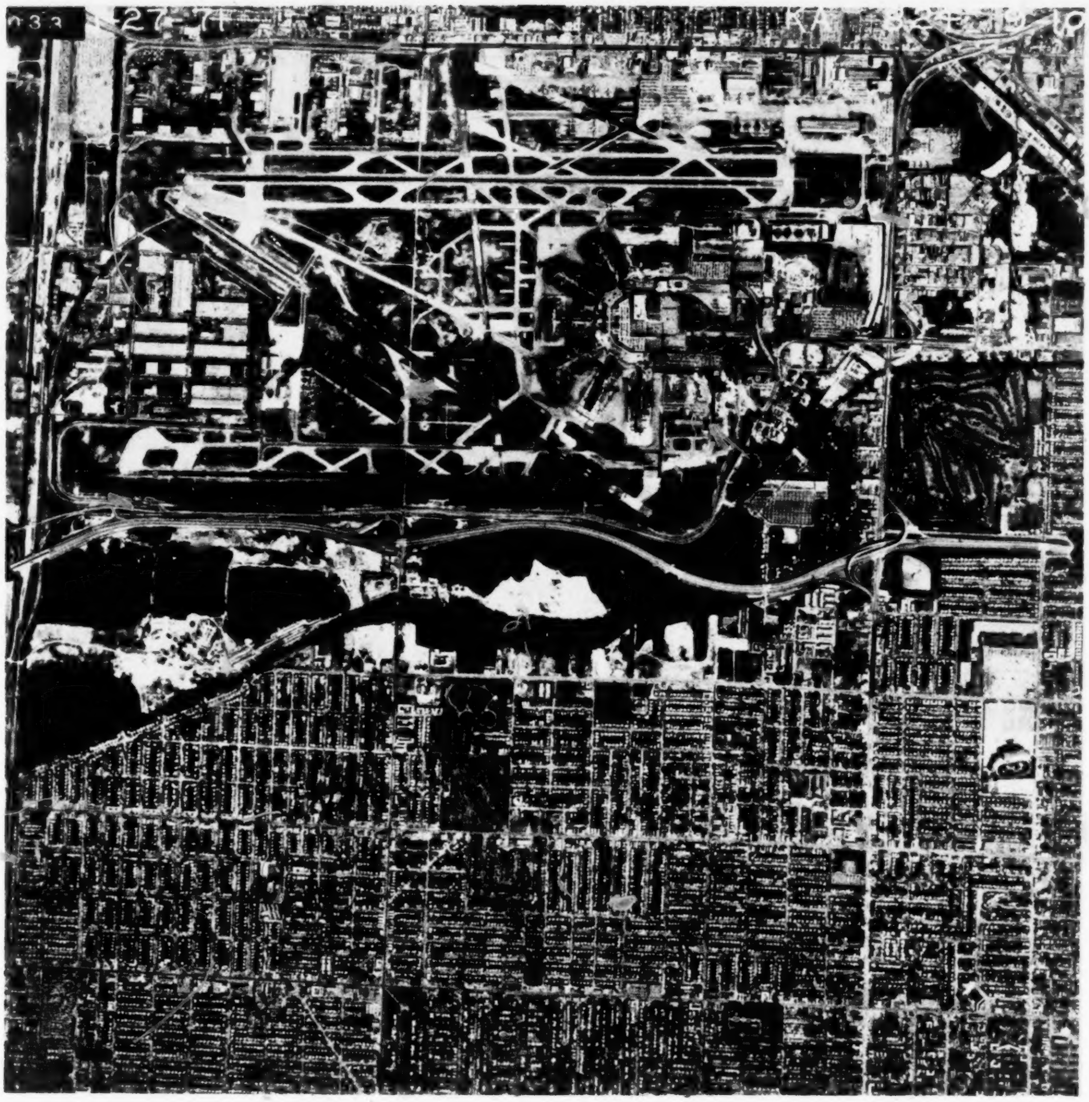
Passenger Traffic[1]		Flight Traffic[2]
5,077,502 passengers	1964	325,958 flights
6,193,981 passengers	1965	322,644 flights
7,107,645 passengers	1966	414,213 flights
8,722,302 passengers	1967	446,953 flights
unavailable	1968	437,534 flights
unavailable	1969	413,461 flights

[1] Federal Aviation Administration Statistical Handbook
[2] Dade County Port Authority Annual Reports, 1964-69

The decrease in flight traffic beginning in 1968 was the result of the opening of the new Tamiami Airport for general aviation traffic and the removal of these flights from landing at Miami International.

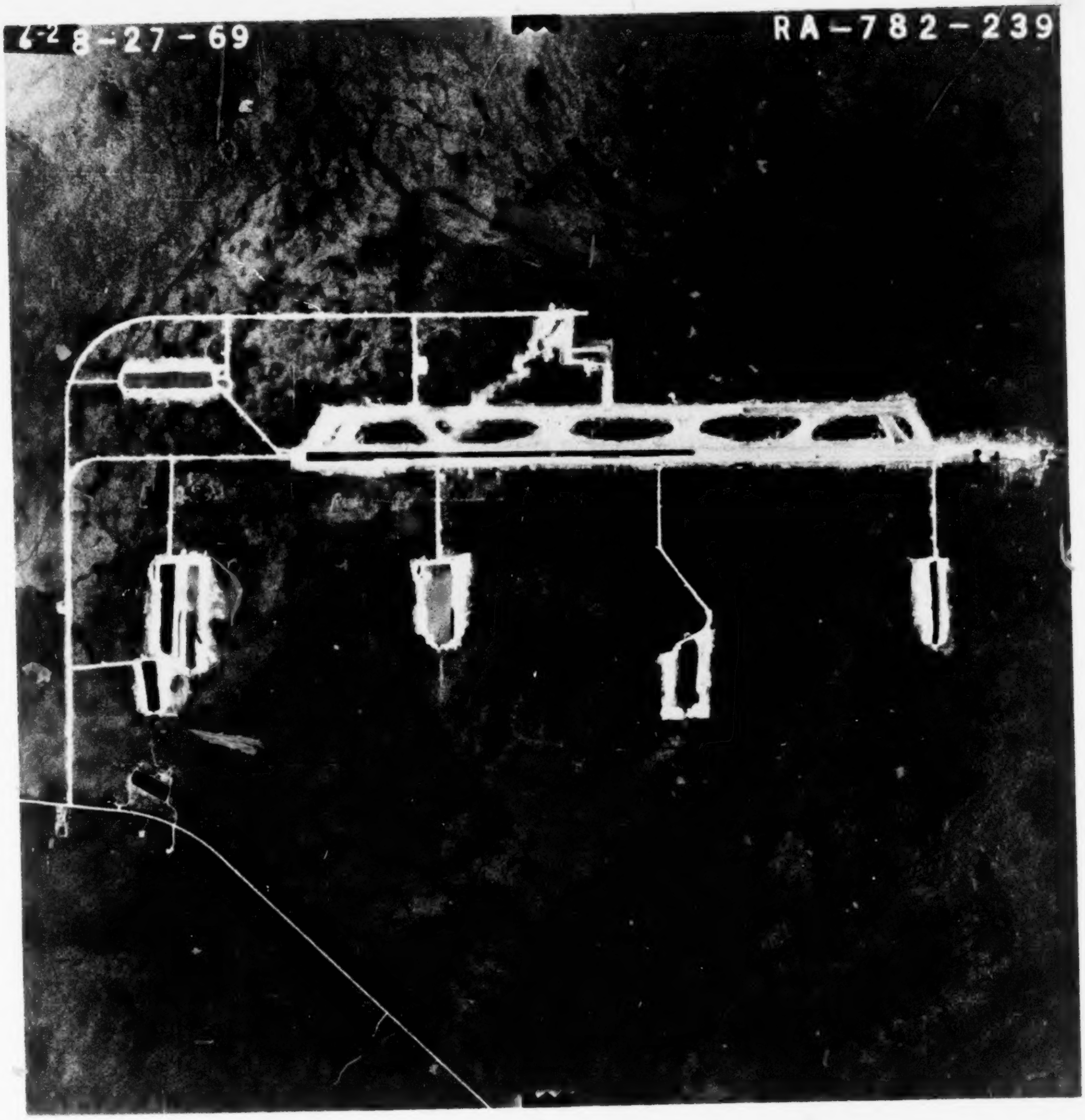
S-1-287


Lake Okeechobee
W. Palm Beach
Sunshine State Parkway
I-95
Fort Myers
US 27
Fort Lauderdale
Everglades Parkway
Naples
COLLIER
BROWARD
Proposed I-75
US 41
Training Airport
Greater Miami
DADE
Miami International Airport
MONROE
Everglades National Park
US 1
US 1
Key West
JNR



"Miami International Airport and Surrounding Area"

North of the airport (at the top of the photograph), suburban housing exists in much the same pattern as south and east of the airfield. A major north-south expressway is located to the west of the airport but is not shown in this photograph. "Holding" and landing patterns for the planes using this field often involve flying over parts of the Everglades which is to the southwest of this photograph.



"The Nearly Completed First Runway at the Training Airport in the Everglades"

The Dade County Port Authority accepted this as its first choice for the South Florida Regional Jetport. Since this photograph was taken, construction of one training runway has been completed and is presently in use. Construction of a second runway was halted. No permanent buildings except the landing tower have been constructed.

S-1-290

ISSUE:	Industrialization - Urbanization: Threat or Panacea in the Twentieth Century?
TOPIC:	The Transportation Maze: Passages and Portals.
TITLE:	"Routing Washington's New Metro."
DESCRIPTOR:	Many factors are considered by planners in developing a mass transit system. A key consideration is the location of the actual routes to maximize its utility. Through an analysis of the data and maps supplied, the students, working in small groups, will try to establish the routes. After the routes have been selected, the groups will compare their ideas with those of other groups and finally with the selections made by the Metro Planners. Discussion will elicit some of the myriad of factors involved in the decision making. These become the basis for subsequent investigation. A discussion of the technique and the results of student participation from classroom situations will follow the presentation.
DISCUSSION LEADER:	Robert A. Keller, Jr., Loyola High School, Towson, Maryland.
TABLE 1:	1966 AND 1990 POPULATION AND EMPLOYMENT FIGURES BY JURISDICTION. WASHINGTON METROPOLITAN AREA.

	Population		Employment	
	1966	1990	1966	1990
District of Columbia	816,000	919,000	557,000	799,000
Sector O in District	101,000	104,000	285,000	501,000
Alexandria	125,000	218,000	29,000	79,000
Arlington County	184,000	240,000	104,000	264,000
Fairfax City	20,000	42,000	3,000	15,000
Fairfax County	354,000	838,000	72,000	200,000
Falls Church	11,000	13,000	5,000	7,000
Montgomery County	441,000	903,000	122,000	250,000
Prince Georges County	518,000	1,052,000	118,000	326,000

DISTRIBUTION OF WORK TRIPS PRODUCED. 1990 PEAK TWO HOURS

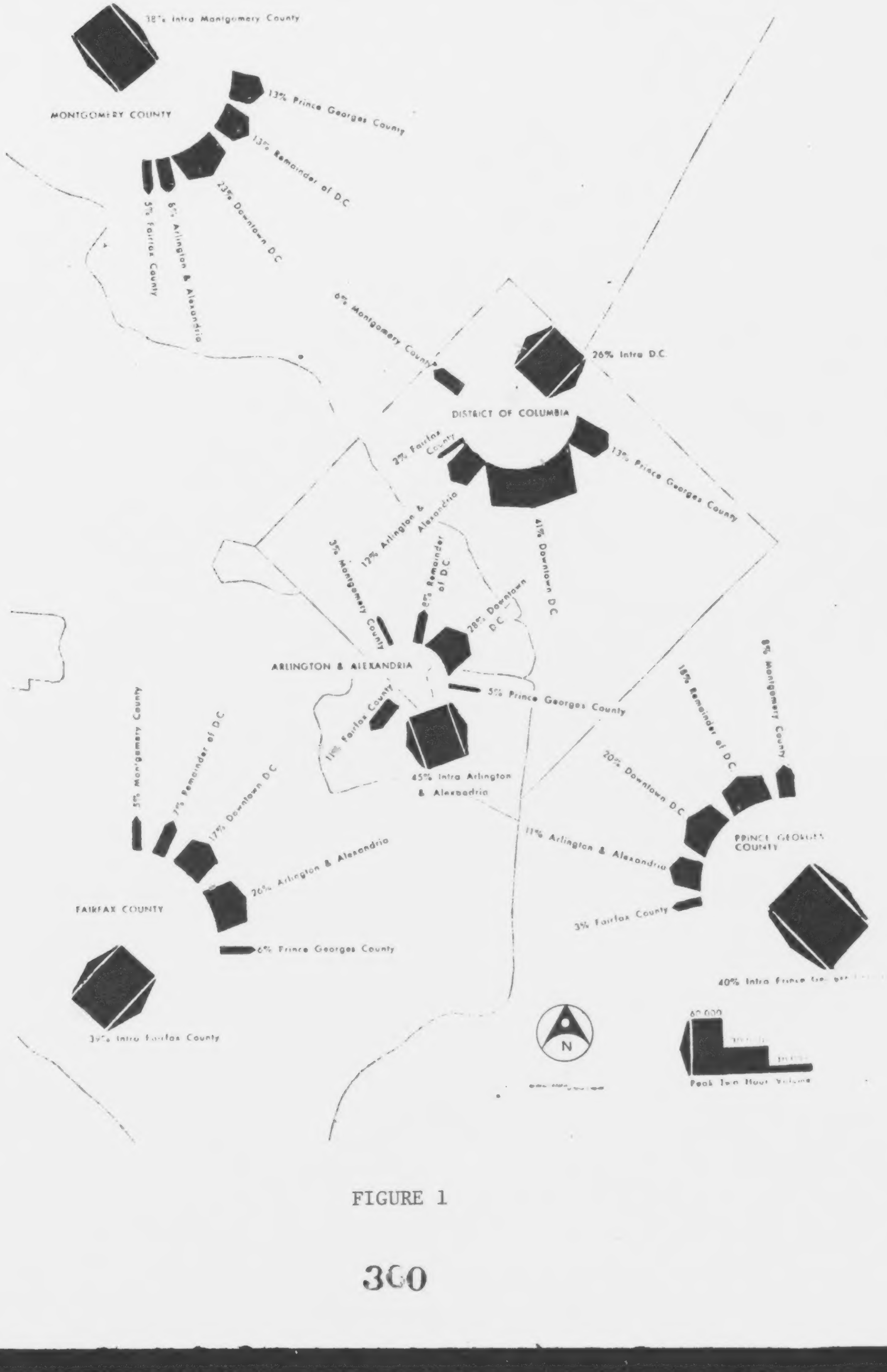

38% Intra Montgomery County
MONTGOMERY COUNTY
13% Prince Georges County
13% Remainder of D.C
23% Downtown D.C
6% Arlington & Alexandria
5% Fairfax County
6% Montgomery County
26% Intra D.C.
DISTRICT OF COLUMBIA
2% Fairfax County
13% Prince Georges County
12% Arlington & Alexandria
41% Downtown D.C
3% Montgomery County
8% Remainder of D.C
28% Downtown D.C
ARLINGTON & ALEXANDRIA
5% Prince Georges County
11% Fairfax County
45% Intra Arlington & Alexandria
5% Montgomery County
7% Remainder of D.C
17% Downtown D.C
26% Arlington & Alexandria
FAIRFAX COUNTY
6% Prince Georges County
39% Intra Fairfax County
18% Remainder of D.C
8% Montgomery County
20% Downtown D.C
PRINCE GEORGES COUNTY
11% Arlington & Alexandria
3% Fairfax County
40% Intra Prince Georges County
N
60,000
Peak Two Hour Volume

FIGURE 1

S-1-292

THE 1990 (=1980) METRO RAPID RAIL TRANSIT NETWORK

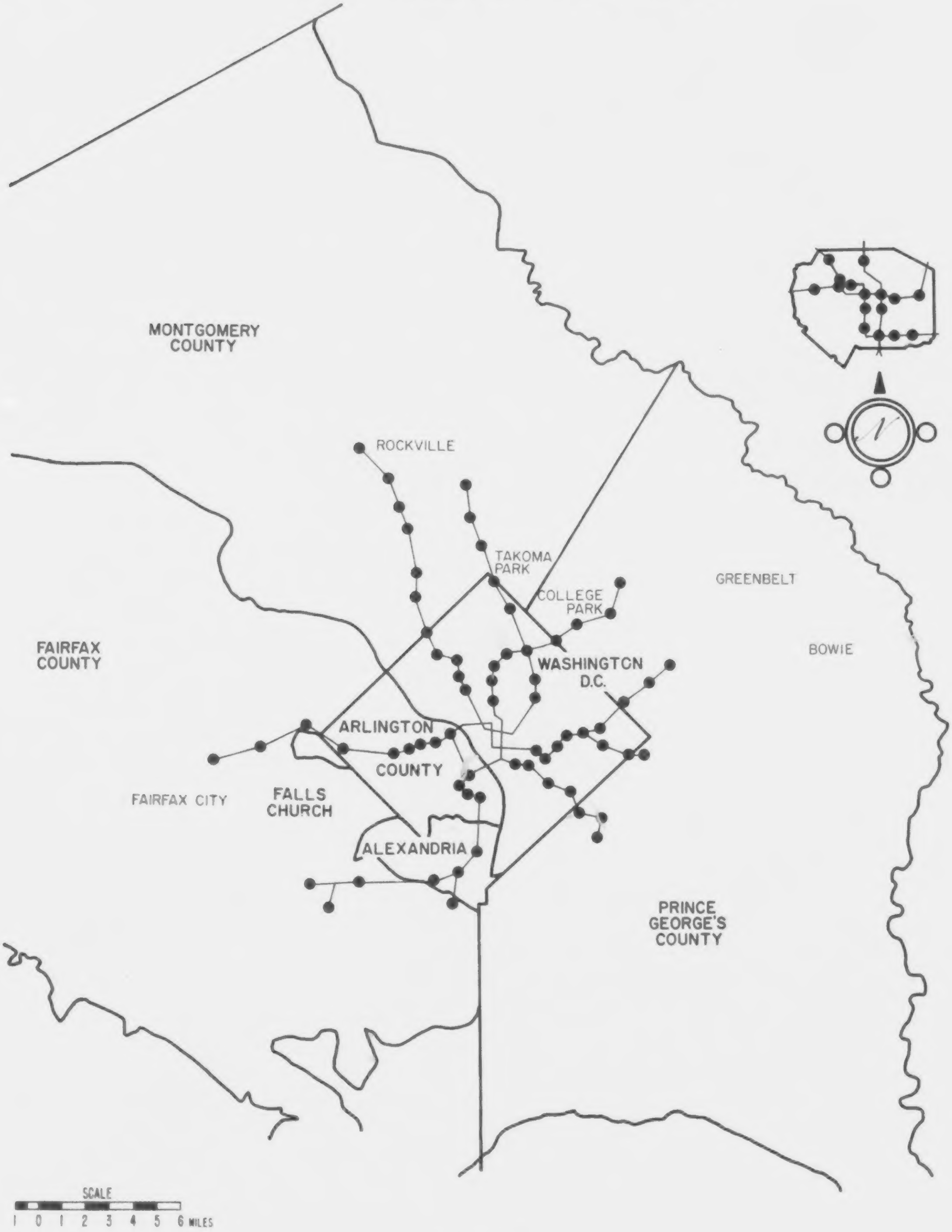
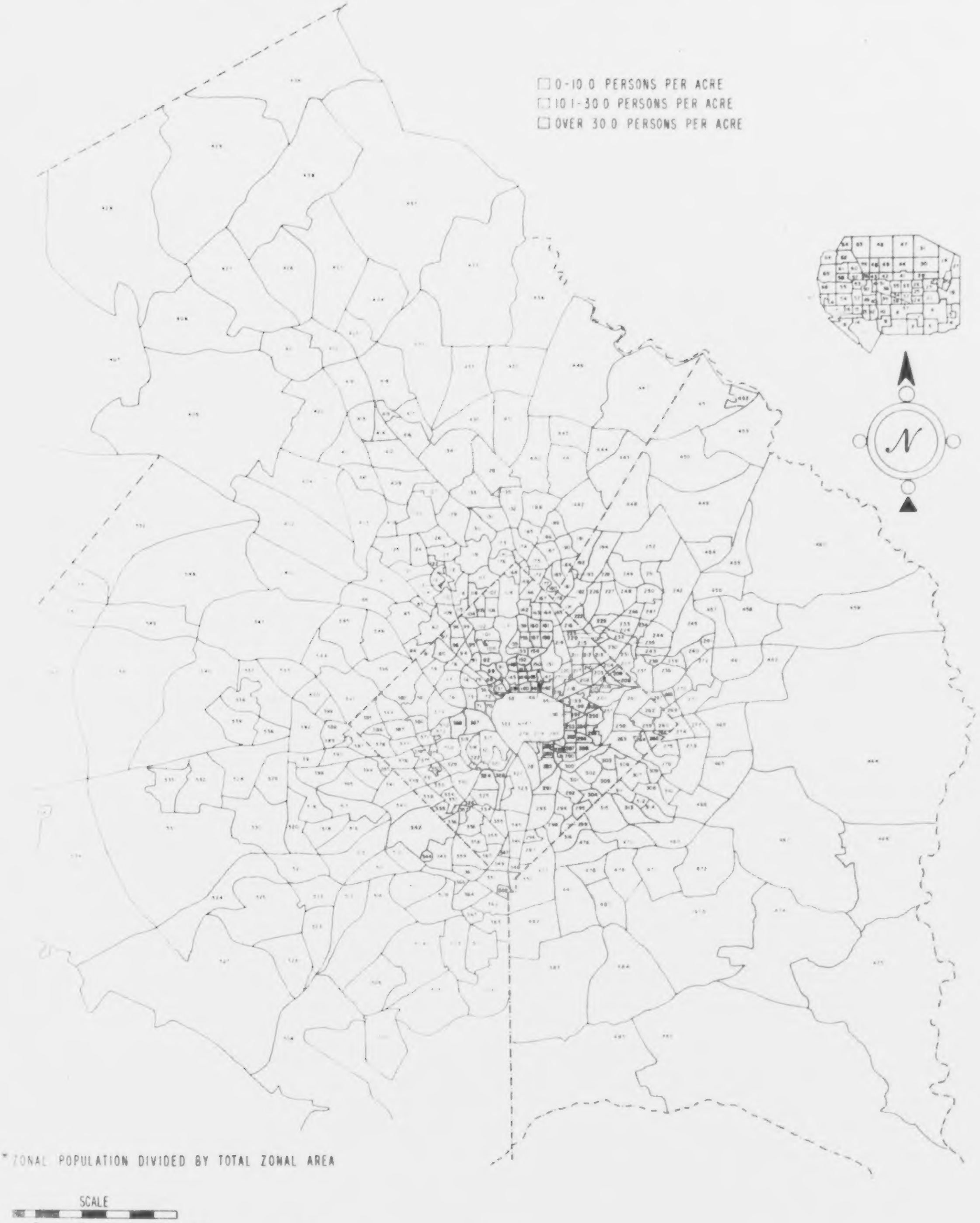

MONTGOMERY COUNTY
ROCKVILLE
TAKOMA PARK
COLLEGE PARK
GREENBELT
FAIRFAX COUNTY
WASHINGTON D.C.
BOWIE
ARLINGTON COUNTY
FAIRFAX CITY
FALLS CHURCH
ALEXANDRIA
PRINCE GEORGE'S COUNTY
N
SCALE
1 0 1 2 3 4 5 6 MILES

FIGURE 2

S-1-293

1990 METRO PLAN GROSS POPULATION DENSITIES*


☐ 0-10.0 PERSONS PER ACRE
☐ 10.1-30.0 PERSONS PER ACRE
☐ OVER 30.0 PERSONS PER ACRE
N
SCALE
1 0 1 2 3 4 5 6 MILES

*ZONAL POPULATION DIVIDED BY TOTAL ZONAL AREA

FIGURE 3

METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS

Peat, Marwick, Livingston & Co.

S-1-294

Issue:	Urbanization - Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	The Transportation Maze: Passages and Portals.
Title:	"Canalers and Conservationists: The Projected Cross-Florida Canal."
Descriptor:	Students inductively develop and test a model for solving problems relating to environmental quality.
Discussion Leader:	Edward A. Fernald, Department of Geography, Florida State University, Tallahassee, Florida.

* * * * *

"Canalers and Conservationists: The Projected Cross-Florida Canal."

Input Steps:

1. Figure 1 is used as a focal point to provide descriptive background on the government's reasons for constructing the Cross-Florida Barge Canal.

2. Use Figure 1 and draw from the students several hypotheses and/or problems regarding environmental change, land use, and planning. For example:

    a. The building of such a structure will affect a complex set of natural and cultural phenomena.
    b. Construction will cause a change in the environment at a rate and to a degree greater than normal.
    c. Wholistic land use planning is a necessary step in the construction of such a project. (Good generalization but not finished.)
    d. The significance of the physical environment is a function of the attitudes, objectives, and technical skills of man.
    e. Such a change in the physical environment will have negative effects on the ecosystems involved.

3. Have students inductively develop a model for testing above hypotheses and use the Model for Solving Environmental Quality Problems to test their model. (Note! The student's model may be different but as good as this one. Use theirs.)

4. Use Figures 2 and 3 and maps from a systematic atlas of the U.S. to collect data to fit the requirement for cultural and physical data. Historical land use must be generalized as active use from 1860 to 1930 for forestry, hunting and fishing, minor agriculture and tourist use of the river for excursions upstream to Silver Springs. Presently, the area is in extensive recreation, retirement, and National Forest use and ownership.

5. Discuss the classes idea of what the natural river valley would look like. Value this as good to poor landscape.

Intervening Variable Step:

1. Use Figures 2 and 3 again as the general requirements for the canal are discussed:

    Minimum Depth - 12 feet
    Minimum Bottom Width - 150 feet
    Five Locks - 84 feet x 600 feet
    Two Dams

2. The elevation change of the river in the sector discussed in this activity is from 10 to 20 feet above sea level. The small dotted lines on Figure 3 show the 20-foot contour line.

3. Have the class list, from looking at Figure 3, cultural and physical changes which are likely to occur due to the existence of the canal, i.e.,
    a. Large reservoir
    b. Destroy forest
    c. Hurt fishing and hunting
    d. Create recreation opportunities
    e. Eutrophication of reservoir
    f. Costs
    g. Economic benefits
    Note: Some items may be seen as good by some people, bad by others.

Output Stage:

1. Use Figure 4 to further check generalizations and hypotheses developed.

2. Check for new data.

3. Evaluate the Cross-Florida Barge Canal Project.
    a. Points for Canalers
    b. Points for Conservationists
    c. Discuss students' output (students may not agree) against President Nixon's decision to stop a $164,000,000 project after it was one-third completed.

Evaluation:

Have students discuss use of a model in problem solving.
Have students discuss use of maps in problem solving.

Model For Solving Environmental Quality Problems

I. Input: Recognition of Problem of Land Use Change

    A. Historical Background

    B. Inventory and Analysis of Existing Phenomena
        1. Physical Features
        2. Cultural Features

II. Intervening Variables:

- A. Superimpose Cross-Florida Barge Canal On The Map
- B. Affecters of Future Land Use

III. Output:

- A. Evaluation
- B. Decisions
- C. Construction of Functional Land Use Map

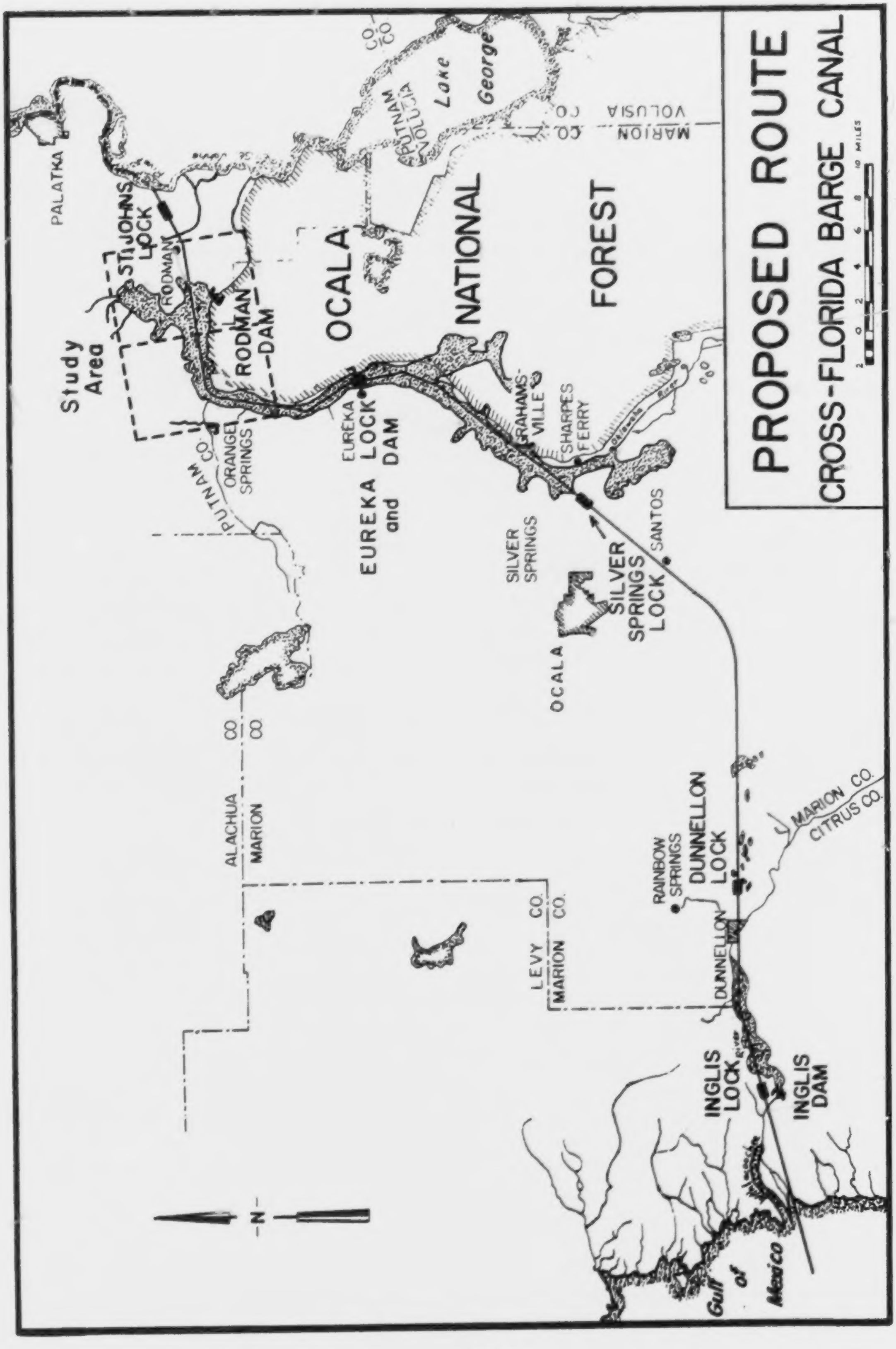

PROPOSED ROUTE
CROSS-FLORIDA BARGE CANAL
2 0 2 4 6 8 10 MILES
N
PALATKA
ST. JOHNS LOCK
RODMAN
RODMAN DAM
Study Area
OCALA
NATIONAL
FOREST
Lake George
PUTNAM CO.
VOLUSIA CO.
MARION CO.
PUTNAM CO.
ORANGE SPRINGS
EUREKA
EUREKA LOCK and DAM
GRAHAMSVILLE
SHARPES FERRY
SANTOS
SILVER SPRINGS
SILVER SPRINGS LOCK
OCALA
ALACHUA
MARION
LEVY CO.
MARION CO.
RAINBOW SPRINGS
DUNNELLON LOCK
DUNNELLON
MARION CO.
CITRUS CO.
INGLIS LOCK
INGLIS DAM
Gulf of Mexico

Figure 1

INVENTORY MAPS

LEGEND

▭▬ Proposed Cross-Florida Barge Canal
— — — — Boundary of Study Area
— — — Boundary of Soil Associations
··········· Level of Proposed Reservoirs
▨ Electric Power Line

═ Paved Roads
┅ Dirt Roads
○ Abandoned Dwelling
● Dwelling
⊛ Farmers Dwelling

⊟ Restaurant
☐ Service Station
◫ Grocery
■ General Store
⊟ Motel
☐ Church
TP 32 Trailer Park (Number indicates trailers)
★ Fire Tower
⬭ Thoroughbred Horse Farm
☐ Abandoned Rock Quarry

◩ Fish Camp
⊡ Auto Junk Yard
◪ Used Car Sales
▚ Tourist Shop
⊞ Bar
◩ Tourist Attraction
◓ Sewerage Disposal Plant
═ Gas Pipeline
■ Power Relay Station
⊞ Cemetery
▲ Camp Site

⧄ Lumber Yard
◨ Stone Works
⊟ Real Estate Office
⊠ Tool and Die Co.
◧ Nursery
☑ Vacant Building
◎ Dolomite Quarry
◉ State Roadside Park
x117 Elevation Point
○ Abandoned Clay Pit

LAND IN NATURAL VEGETATION

☐ Dry Sand Scrub
☐ Pine Flatwood
▨ Upland Pine and Oak
▨ Hardwood Forest
▨ Swamp Forest
▨ Coastal Salt Water Marsh
▨ Hardwood Hammock

CULTURAL LAND USES

▨ Platted Residential or Commercial
☐ Unimproved to Semi-improved Pasture
▨ Improved Pasture
▨ Citrus
▨ Peaches
▨ Planted Pine
☐ Watermelon
▨ Corn

SOIL ASSOCIATIONS

1	Nearly level, acid, excessively drained, more than 30 inches sand surface
3	Nearly level, acid, somewhat excessively drained, more than 30 inches sand surface
4	Undulating, slightly acid, well drained, more than 30 inches fine sand surface underlain by limestone
5	Nearly level, slightly acid, well drained, more than 60 inches sand surface influenced by phosphatic materials
8a	Nearly level, slightly acid, moderately well drained, less than 40 inches sand surface influenced by phosphatic materials
12	Nearly level, acid, moderately well drained, more than 40 inches sand surface over sandy clay loam
13a	Nearly level, strongly acid, poorly drained, more than 40 inches sand surface over organic pan
19	Nearly level, acid, somewhat poorly drained, sandy loam with clay pan at less than 30 inches
21	Nearly level, slightly acid, somewhat poorly drained, less than 30 inches sand surface over limestone or marl
22	Nearly level, acid, poorly drained, more than 30 inches sand surface
26	Level, poorly drained, organic soils, 12 inches or more peat or muck
27	Fresh water marsh and swamp, highly organic
28	Salt water marsh and swamp, mostly sand

Figure 2

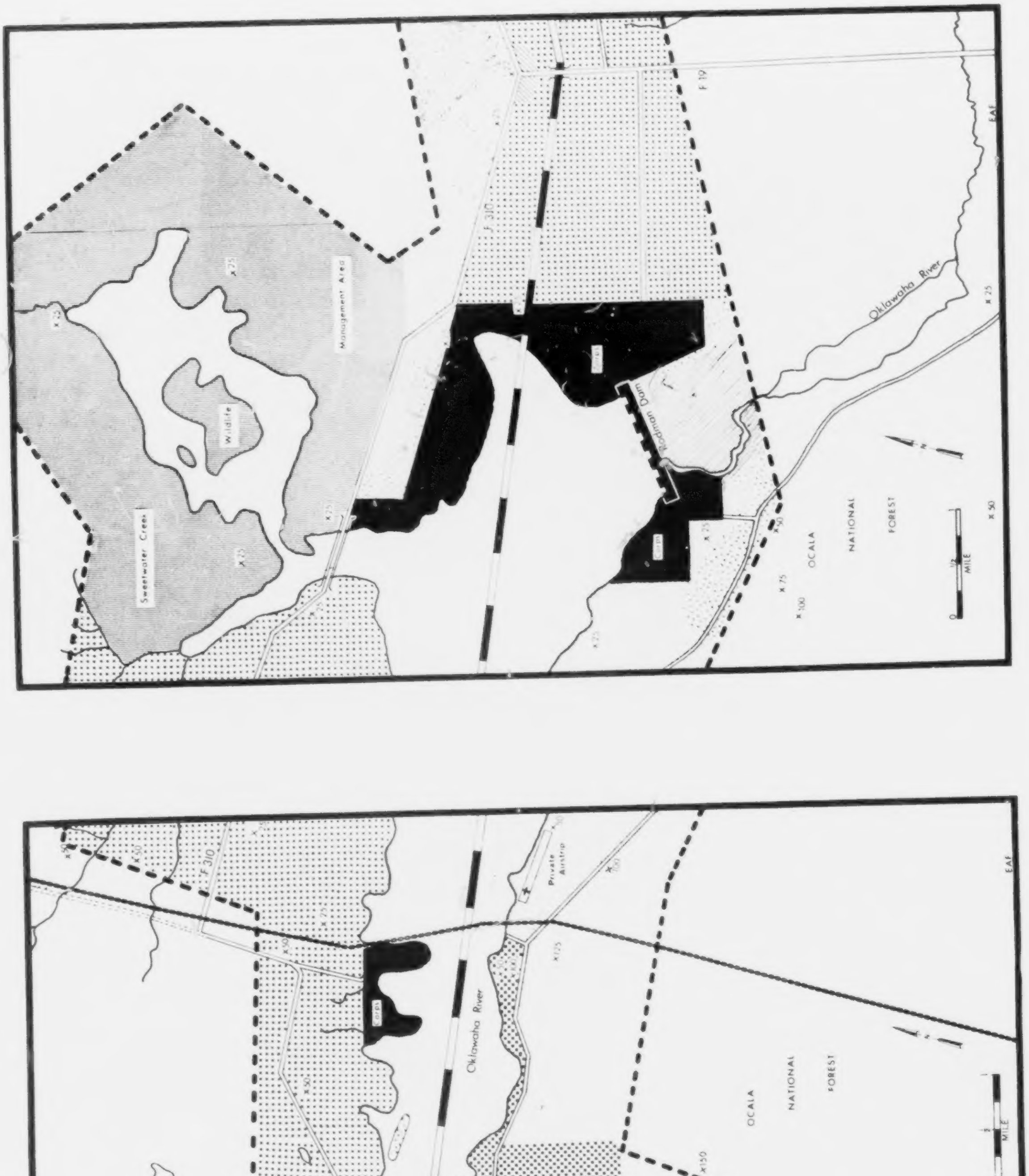

Sweetwater Creek
Wildlife
Management Area
Rodman Dam
Oklawaha River
OCALA
NATIONAL
FOREST
F 310
F 19
F 315
Corps
Private Airstrip
Orange Springs
MILE
EAF

Figure 3

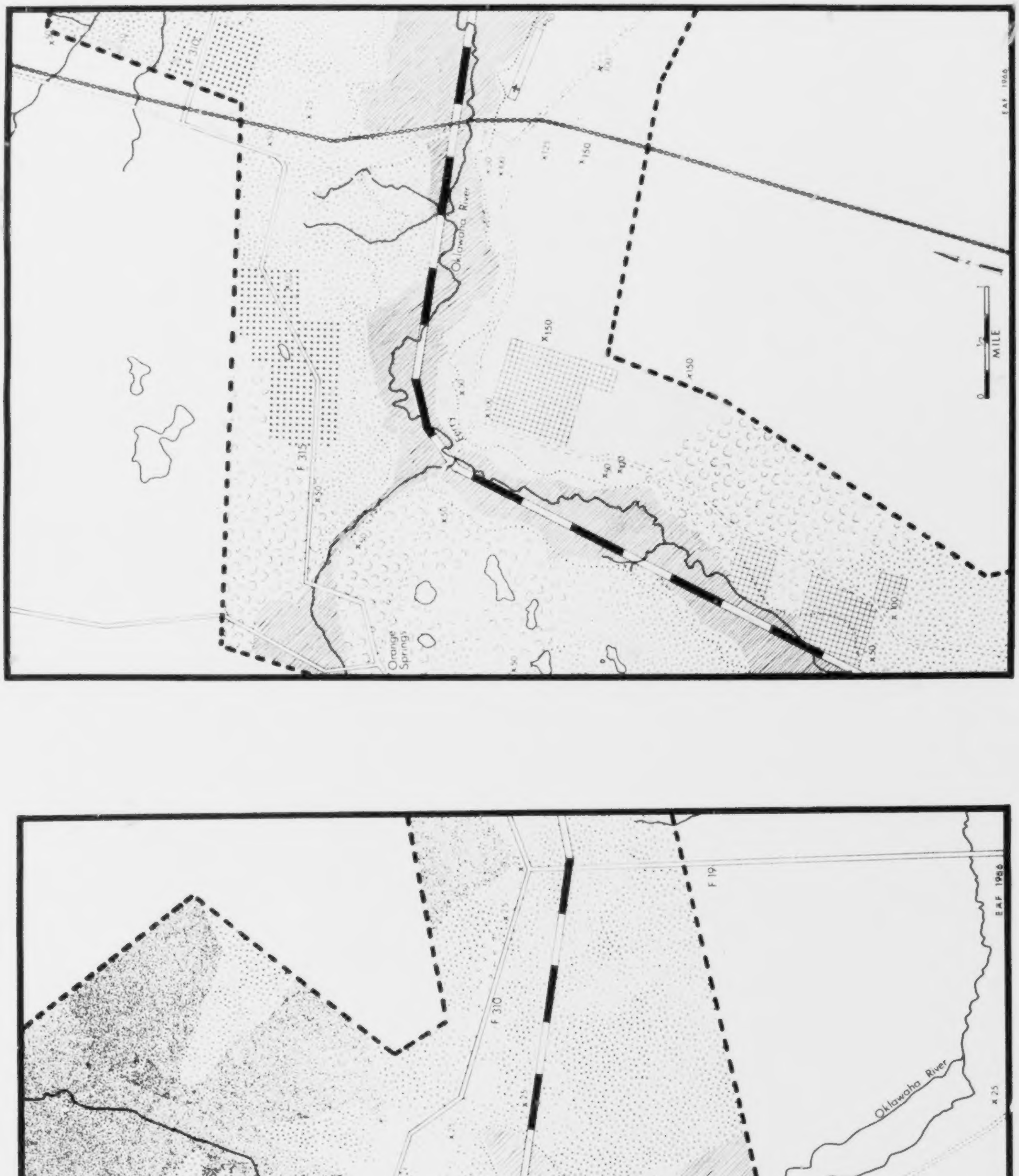

Oklawaha River
Ferry
Orange Springs
F 310
F 315
F 19
Rodman Dam (Proposed)
Oklawaha River
MILE
EAF 1966
x150
x125
x50
x25
x75
x100

Figure 4

Issue: Urbanization - Industrialization: Threat or Panacea in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-Being.

Title: "Dietary Patterns in the Twentieth Century America: America the Hungry?"

Descriptor: There are many myths concerning hunger in America today. By exploring the dietary patterns of Twentieth Century America, revealing "America the Hungry", we seek to expose some of these myths of hunger.

Discussion Leaders: Kay Dodge and Russell Lewis, Educational Park, Grand Rapids, Michigan.

* * * * *

"Dietary Patterns in the Twentieth Century America: America the Hungry?"

HUNGER IN AMERICA: This sheet of current facts and statistics can be used to stimulate group discussion, be topics for individual short research reports (oral or written), or additional facts and implications could be added to expand the data.

WHO ARE THE HUNGRY?: This poem could be effectively used as a theme, around which students could create mobiles, collages, a film, multimedia presentations, or other creative visual statements on WHO ARE THE HUNGRY. Students could also contact their local agencies for speakers on the local problems of nutrition and hunger.

EARLY MALNUTRITION: (Figure 3) This chart should be used in a class discussion stressing the cause-effect implications on hunger, not only on the young individual (apathy, mental retardation, disease, etc.), but also on society as a whole (welfare, special education, alienation, civil unrest, etc.).

THE CYCLE OF HUNGER: (Figure 4) The cycle of hunger is a simple diagram illustrating a most complex problem. The difficult problems of escaping from the culture of hunger and poverty should be stressed. The students, through research and reading could relate the cycle to the specific problems of various groups, i.e. the Indians, Appalachian Whites, Ghetto Blacks and Browns, etc. Role playing would be effective in illustrating the problems.

WHO ARE THE HUNGRY?

THE POOR
the affluent
the young
the old
the urban poor
the rural poor
the Indian
the Brown
the Black
the White
the migrant family
Americans all.

S-2-302

HUNGER IN AMERICA

* 75% of the mentally retarded are found in areas of rural and urban poverty

* 50% of Chicago's school children are not adequately nourished

* 10-15 million Americans are chronically or constantly hungry

* United States infant mortality rate 27.1 deaths per thousand, 13 in the world standings

* 20.8 million Americans living in poverty based on Social Security Administration definition

* U.S. News and World Report - 34.3 million Americans living in poverty - 69% white

* About 10% of the poor are now reached with food stamps

* 1969 - 44 cases of Kwashiorkor and Marasmus among Navajos

* Paul Ehrlich - "there is a strong correlation between nutritional levels and physical and mental development in pre-school age children."

* A child's body grows 20% of its adult size in the first three years, while the brain grows 80% in the same three years.

* 50% of the brain's dry weight is protein

* Children malnourished for more than 4 months of early life, never catch up in physical or mental development

* Americans prefer to think of hunger as a Biafran or Chinese problem

* NEA study - in Florida, Texas, and Illinois - 75% of the migrant children were retarded

* The rate and the intensity of mental illness is much greater for the poor

Apathy

Protein Starvation

Malnutrition

Marasmus

Overnourishment

Poverty

Kwashiorkor

"AMERICA, THE LAND OF PLENTY"

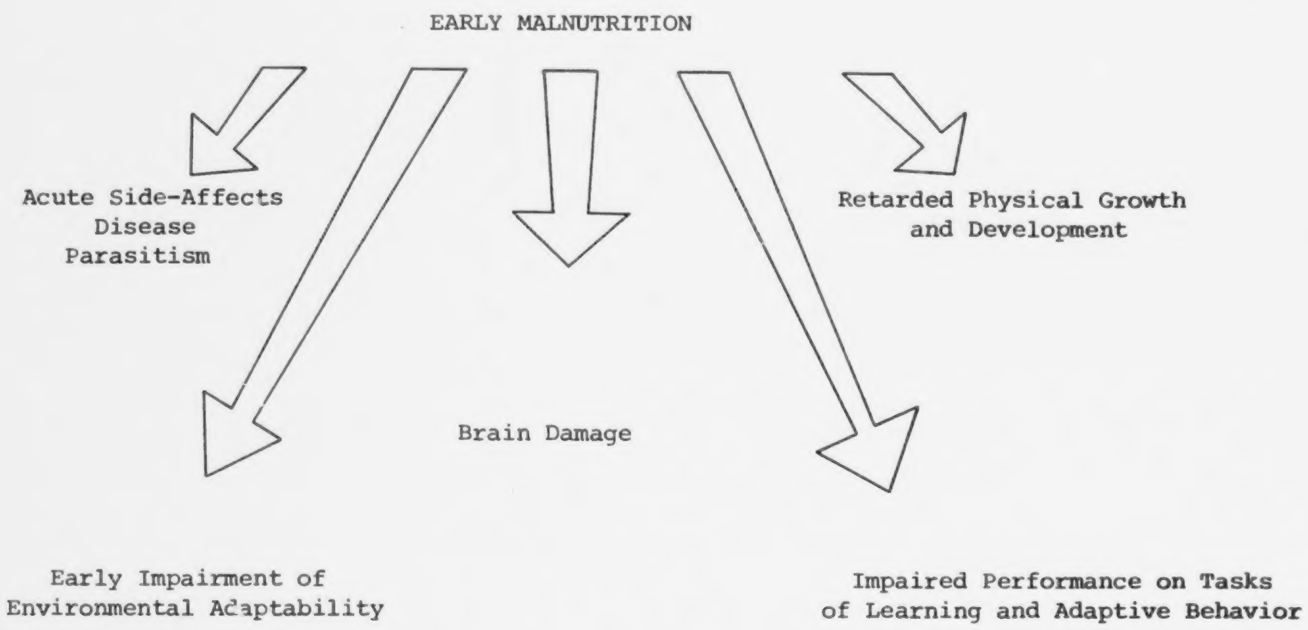

EARLY MALNUTRITION
Acute Side-Affects
Disease
Parasitism
Retarded Physical Growth
and Development
Brain Damage
Early Impairment of
Environmental Adaptability
Impaired Performance on Tasks
of Learning and Adaptive Behavior

Figure 3

THE CYCLE OF HUNGER

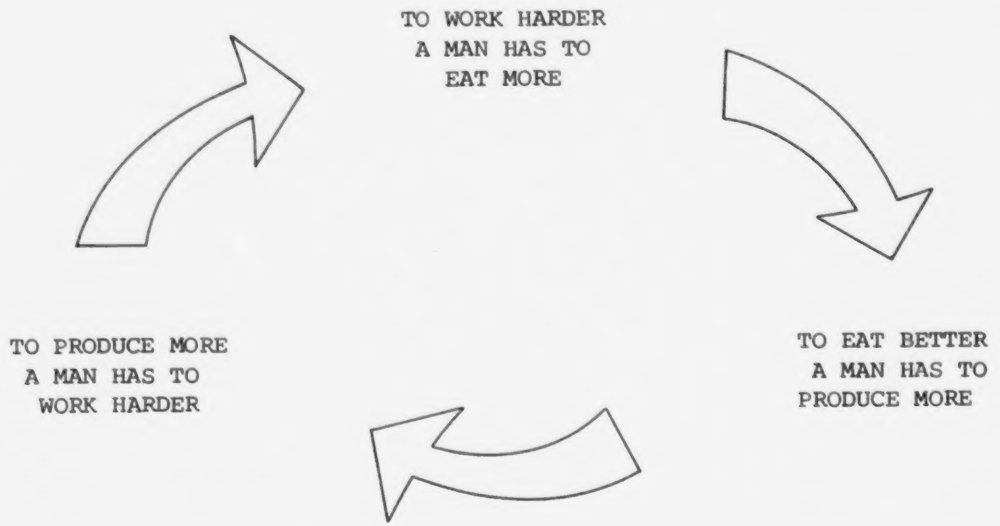

TO WORK HARDER A MAN HAS TO EAT MORE
TO EAT BETTER A MAN HAS TO PRODUCE MORE
TO PRODUCE MORE A MAN HAS TO WORK HARDER

Figure 4

Issue:	Urbanization--Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	Economic Development: The Quest for Material Well-Being.
Title:	"After the Flood: The Eagle and the Bear at Aswan."
Descriptor:	The Aswan High Dam was heralded as a great blessing for Egypt. Although doing much of what it was designed for, it has brought with it many unforeseen societal and ecological problems.
Discussion Leader:	Willis D. Veal, The University School, Florida State University, Tallahassee, Florida.

* * * * *

"AFTER THE FLOOD: THE EAGLE AND THE BEAR AT ASWAN"

The north-east of Africa is a wilderness of mountain, rock and desert with the life of the people wholly dependent on the flow of the River Nile. Its 1,000-mile course through Egypt normally provides a six mile wide valley of greenness to Cairo; below it, the Nile broadens into its delta.

Of Egypt's 386,000 square miles, only 15,000 are endowed by nature to be easily habitable by man. For 6,000 years of recorded history, the River has had much to do with whether the people prospered or be impoverished, ate or went hungry. The Egyptians learned early in their history to adapt to the behavior of the river and to use it for the greatest benefit of the most people. Partly for this purpose, the Egyptians developed one of the first systems of central government.

Although the Egyptians have continued to develop their ability to use the River to their advantage, there has been a continuous losing struggle to feed a growing population. It was clear that if Egypt was to move its population out of poverty, it would have to rely more heavily on industrialization than on agriculture. And, in order to do this, it was necessary to utilize its most valuable source of power, the Nile.

It was from this determination to develop a modern economy, that the Aswan High Dam Project resulted. This project has become one of the most complex social, political, and economic issues of our time.

It seemed from the beginning that every step of the project was controversial. The resettlement of the more than 100,000 Nubians in Egypt and the Sudan, conflicts over rights and benefits to the two countries, the costs, rivalries of communists and anti-communists, as well as internal politics, conflicting estimates on the efficacy of the dam, and the dam's functions and dysfunctions are all issues worthy of study.

In the exercise, via student-to-student and student-to-teacher dialogue, students will analyze, synthesize, and evaluate a relevant chronology leading to the completion of the High Dam; selected statistical data on the Aswan High Dam and Egypt; a diagrammatic representation of the northern part of the Nile as a hydrologic unity; and a graphic rendition of resettlement of Nubians made necessary by the creation of Lake Nasser upstream from the dam site.

S-2-306

Relevant Chronology Leading to the Completion of the Aswan High Dam

1902 - Completion of first Aswan.

1952 - The Free Officers seized power, exiled King Farouk, and committed themselves to raising the standard of living in Egypt.

1952 - Agrarian reform which limited land ownership to 200 acres per person.

1952 - Aswan High Dam given first priority to the extent it became known in some quarters as "Nasser's Pyramid."

1955 - (Sept.) U.S. and Britain offered loans contingent on World Bank approval of Aswan High Dam plans.

1956 - (February) Plans approved by World Bank - Loans approved for $200m. by World Bank, $55m. by the U.S. and $15m. by Britain.

1956 - (July) U.S. and Britain withdraw offer of support as a result of domestic opposition and the international situation, one aspect of which was the U.S. perception that Egypt was playing the U.S.S.R. against the West.

1956 - Suez Canal Nationalized.

1958 - Egypt and Syria unite to form United Arab Republic.

1959 - (Sept.) U.S.S.R. - U.A.R. contract to finance $325m. of the cost of Aswan High Dam signed.

1961 - Start of construction on the High Dam.

1961 - Syria withdrew from U.A.R.

1964 - (May) The last Flood - The Dam began storing water.

1967 - (June) - The Six-Day War - open hostilities with Israel.

1968 - First electric power generated.

Selected Statistical Data - Aswan Dam

Source: Economic Commission for Africa
Summary of Economic Data
United Arab Republic
1967-68, 1970, #45

TABLE I

Production	1964	1968	1970
Electricity (total installed capacity in thousand kw)	1,335	2,725	3,700
Electric Energy production (mkwh)	5,106	6,735	12,000
Cultivated (million acres)	6.23		8.48
Sugar (t. metric tons)	4,890		6,300
Rice (t. metric tons)	2,036	2,586	
Fish (t. metric tons)	135	85	
Calcium Ammonium Nitrate (Fertilizer)(t. metric tons)	62	438	558
Rice (area)(1,000 acres)	1,000	1,253	1,467
Import-Export in million Egyptian pounds:			
Exported to U.S.A.	7.8		6.21
Imported from U.S.A.	123.5		19.6
Exported to U.S.S.R.	42.0		52.8
Imported from U.S.S.R.	32.1		73.0

TABLE II

Changes in Land per Capita (1945-72)

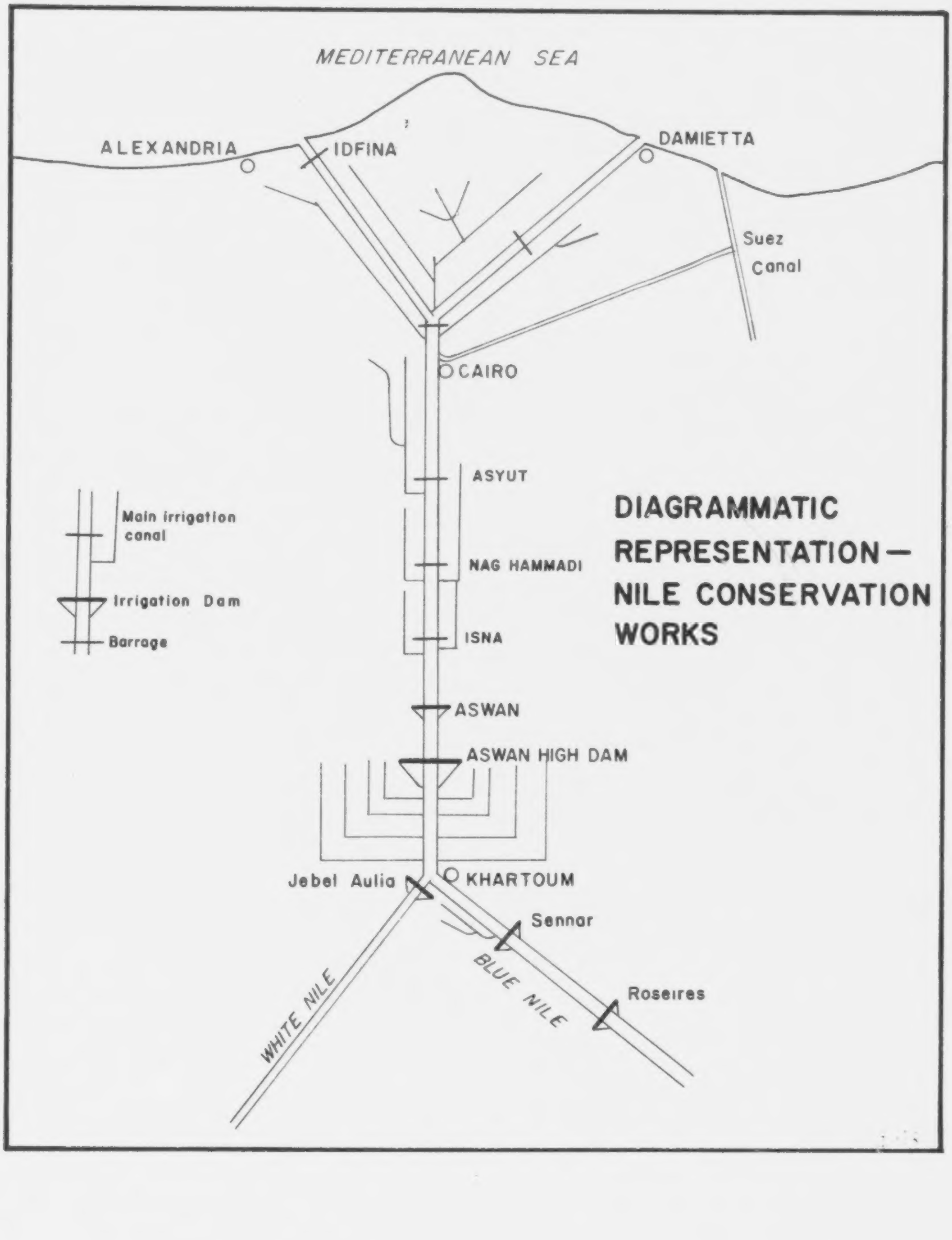
	Cultivated area in million acres:	Population in millions:	Cultivated acres/per Capita:
1945	5.73	18.0	0.318
1952	5.67	21.5	0.264
1960	6.02	25.8	0.233
1965	6.23	29.8	0.209
1968	7.85	32.5	.241
1972 (Projected)	8.48	36.6	0.232

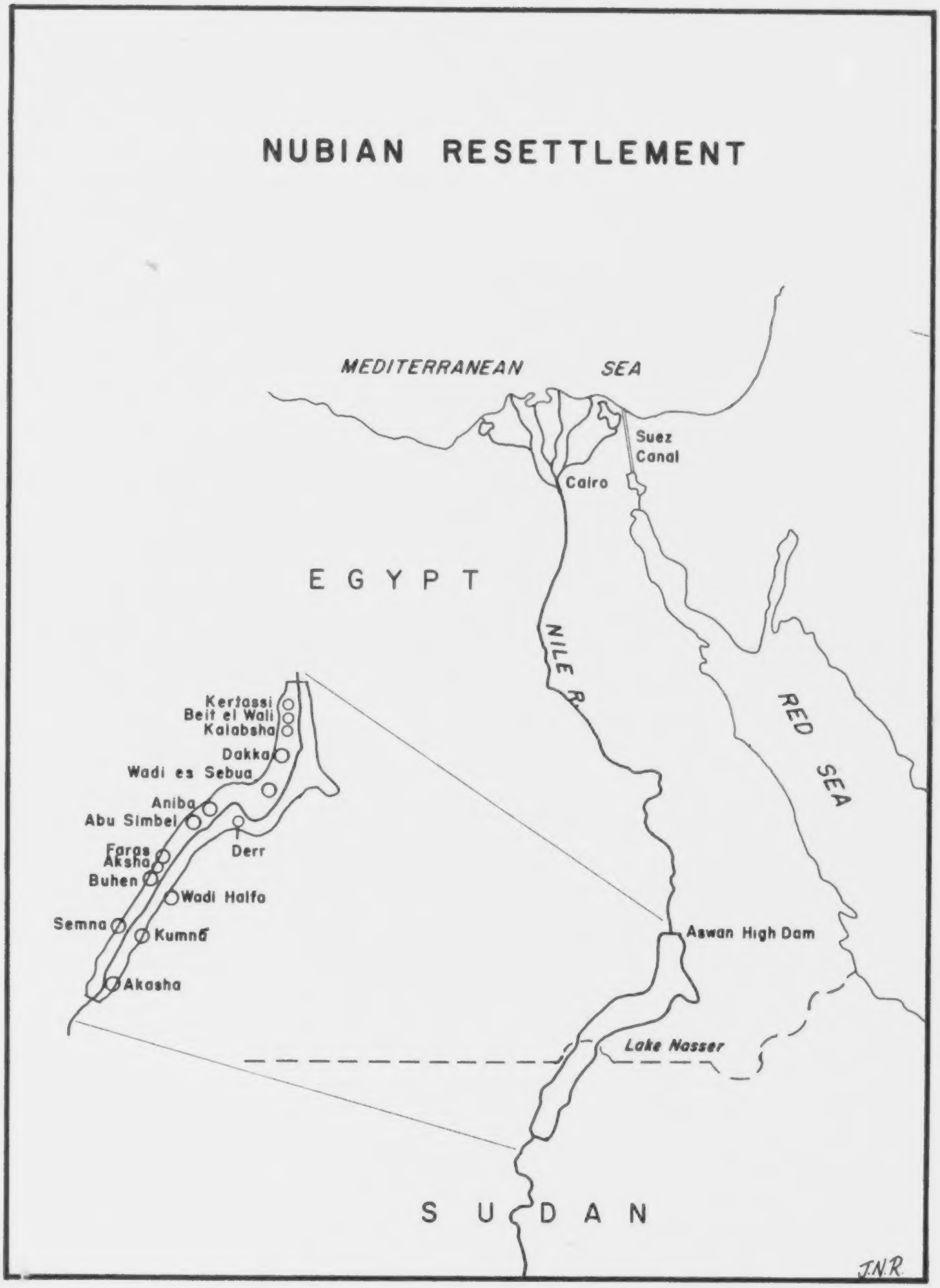
S-2-308

TABLE III

Planned Economic Growth Activities for 1961-65

	Investment (million Egyptian pounds):	Increase in Production (million Egyptian pounds):	Increase in Income(million Egyptian pounds):	Increase in Employment (1,000 persons):
Agriculture, irrigation, drainage (Primarily the High Dam	329	162	112	555
Electricity, industry and construction	578.7	727	266	204
Transport, communications and Suez Canal	271.8	29	20	7
Housing and utilities	223.4	15	13	9
Services	111	143	102	251
Total:	1,696.9	1,076	513	1,026


MEDITERRANEAN SEA
ALEXANDRIA
IDFINA
DAMIETTA
Suez Canal
CAIRO
ASYUT
NAG HAMMADI
ISNA
ASWAN
ASWAN HIGH DAM
KHARTOUM
Jebel Aulia
Sennar
Roseires
WHITE NILE
BLUE NILE
Main irrigation canal
Irrigation Dam
Barrage
DIAGRAMMATIC REPRESENTATION — NILE CONSERVATION WORKS



NUBIAN RESETTLEMENT

MEDITERRANEAN SEA
Suez Canal
Cairo
EGYPT
NILE R.
RED SEA
Kertassi
Beit el Wali
Kalabsha
Dakka
Wadi es Sebua
Aniba
Abu Simbel
Derr
Faras
Aksha
Buhen
Wadi Halfa
Semna
Kumna
Akasha
Aswan High Dam
Lake Nasser
SUDAN
J.N.R.

Issue:	Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	Economic Development: The Quest for Material Well-Being.
Title:	"Rinnsal: Exercises in Location Analysis."
Descriptor:	This session will discuss how a locational analysis topic can be developed into a geographical simulation game. The use of behavioral objectives will be demonstrated. The setting is the Arkansas River at Tulsa-Catoosa, Muskogee, Fort Smith, Little Rock, and Pine Bluff.
Discussion Leader:	Jerry Croft, Oklahoma State University, Stillwater, Oklahoma.

* * * * *

The Application of Rinnsal to Education

The problem of economic development is a persistent problem. Normally when students think about economic development they think about Africa, Latin America, and Asia. They seldom consider the aspect of economic development of regions in the United States.

One region in the U.S.A. that is currently experiencing economic development is the Arkansas River basin. The Arkansas River was recently made navigable from a point near Tulsa to the Arkansas-Mississippi river confluence. This new navigation system has already begun to attract new industry to this somewhat economically underdeveloped area.

What processes are involved in plant location? How can these be learned in an interesting fashion? It was decided to approach this latter question via the simulation game approach.

Rinnsal is a geographical simulation game that involves location analysis concepts. It is an attempt to teach industrial location factors via the simulation game method. This game would be particularly useful in an economic or U.S. geography course. It might also be employed in a regional geography course as it does represent a region. Obviously the game could be modified in many ways to make it more valuable for a given teacher's school situation.

Instructions to Students:

For the next three weeks you will be participating in a simulation game. The name of the game is Rinnsal- which is a German word meaning small waterway. Rinnsal involves the Arkansas River Project (Figure 1).

National Steel Company, Inc., has decided to build a new integrated steel mill at one of the following five port cities on the Arkansas River Project; Tulsa-Catoosa, Muskogee, Ft. Smith, Little Rock, or Pine Bluff. It contacts some industrial location analysis companies, and after some preliminary negotiation, it is decided that each industrial location analyst will prepare a preliminary, written and oral, report. The written report should contain a brief discussion of the oral advantages and disadvantages for locating the new steel plant in each of the five port cities. Additionally, it should specify one of these cities as its locational choice. The oral report of 10 minutes should concentrate on explaining why they chose the city they did. This report will then be submitted to the executive board of National Steel. After carefully studying all the preliminary reports submitted by the industrial location analyst companies, the executive board of National Steel will "award a contract" to one of the industrial location companies for the purpose of doing a final report. However, when the contract is awarded the game is over.

The industrial location companies are competing with one another to win the contract that is being offered by National Steel Company. There will be three to five participants in each industrial location analyst company. National Steel executive board will be represented by two - three participants.

Game Roles

Executive Board of National Steel Company (Two to three participants)

Chairman of the Board Board Members

In addition to awarding the contract, this board is responsible for directing the activites of the game. This includes making some rules and interpreting rules.

Industrial Location Analyst Company (Three to five participants per company)

Chief Planner and Associate Planners

These companies prepare a preliminary report for the purpose of winning a contract offered by National Steel Company. As the chief planner is ultimately responsible for the report, he should direct company activities. If someone fails to show up for meetings or fails to complete assigned work, the chief planner may "fire" such a person.

Game Rules

The procedure of the game can be best illustrated by the following outline.

Committee Organization, Step #1 (two class periods). There are two class meetings for introductory and organizational purposes. Additional outside class meetings are established as needed by the various groups. It is important that the chief planner writes down the names and phone numbers of each participant.

Committee Research, Step #2 (nine class periods). Research is conducted.

Committee Reports, Step #3 (one class period). During class the chief planner with the aid of the planners presents his preliminary report (oral and written) to the executive board for National Steel Company.

Board Decision, Step #4 (one class period). During class the executive board of National Steel, Inc. awards the contract to one of the location analyst companies. A short explanation of why they chose the particular location company that they did will be presented.

Post game discussion, Step #5 (two class periods). The post game session analyzes the simulation decisions. There are two basic questions on these decisions: why were they taken, and what were their effects?

S-2-314

ARKANSAS RIVER PROJECT

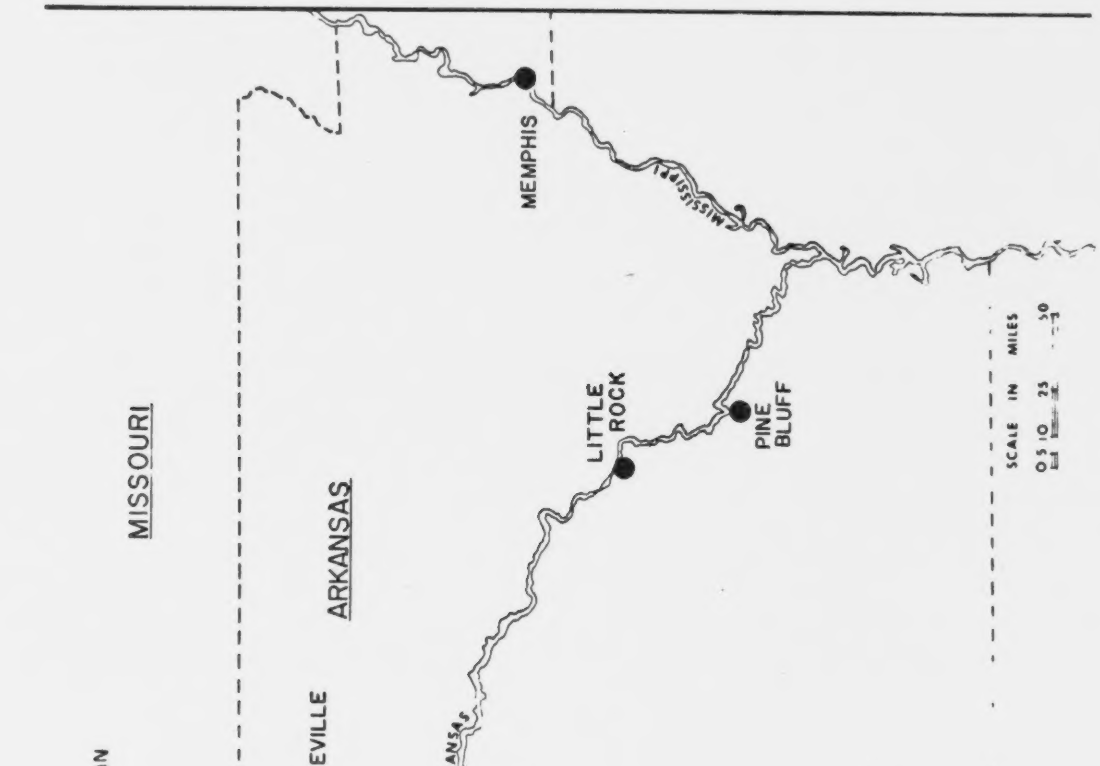

KANSAS
MISSOURI
ARKANSAS
OKLAHOMA
TEXAS
WICHITA
JOPLIN
PONCA CITY
STILLWATER
OKLAHOMA CITY
NORMAN
TULSA
CATOOSA
MUSKOGEE
FAYETTEVILLE
FT. SMITH
LITTLE ROCK
PINE BLUFF
MEMPHIS
MISSISSIPPI
ARKANSAS
CANADIAN
N. CANADIAN
S. CANADIAN
SCALE IN MILES
0 5 10 25 50

Figure 1

S-2-315

Issue: Urbanization-Industrialization: Threat in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-Being.

Title: "Paradox of Plenty."

Descriptor: This is the "hooker" lesson in a twelfth grade instructional unit on the social phenomenon of the paradox of plenty in Appalachia. The lesson has two objectives. First, the student will be able to identify and list the paradox of plenty in Appalachia from evidence presented through the medium of a natural resource sheet and views which compare and contrast Switzerland and Appalachia. Second, the student will be able to list at least two general reasons for the nature of the paradox of plenty in Appalachia.

Discussion Leader: Frank Hagen, Social Studies Center, University of Delaware, Newark, Delaware.

* * * * *

Procedure for the Lesson.

In the lesson, the student is given a natural resource sheet (Table 1) which compares and contrasts two unidentified regions. He also does a series of activities listed on Table 2 and elaborated below. Region A has an abundance and diversity of natural resources. Region B lacks both the abundance and the diversity in natural resources. After studying the available resources in the two regions, the student is asked to describe and evaluate the regions and their potential for economic growth. Invariably, students will indicate that Region A has the greatest potential for economic growth because it has a more extensive and a more intensive natural resource base than Region B. Region B should be classified as an area which will not grow economically because of the explicit lack of natural resources.

After this segment of the lesson is complete and the students are in agreement that Region A has the greater potential for economic growth than Region B, the student views pictures which depict and identify the two regions. Region B is Switzerland, and the students view the prosperity of the Swiss economy. On the other hand, Region A is Appalachia and, in each instance, the students view a depressed economy. At this point, if the lesson has been successful, the student realizes there is a distinct variance between his original description and hypothesis and the new evidence. Given that the new evidence is true and correct, the student is asked to re-evaluate both the description of each region and the hypothesis regarding the economic potential of the regions. The student should recognize that a paradox exists. On the one hand, is the resource barren country of Switzerland which has a prosperous economy. On the other hand is the resource rich area of Appalachia which has a depressed economy.

The final activity of the lesson is to engage the students in the process of hypothesizing as to the nature of the variance or, more specifically, the paradox of plenty. The following are just a few of the reasons which might be entertained: lack of individual initiative, exploitation by robber baron landlords, lack of resource perspective by the inhabitants, not a bulk breaking point . . .

Table 1
Natural Resources Sheet

	REGION A	REGION B
POPULATION	5,700,000	5,500,000
AREA	80,000 miles	16,000 miles
NATURAL RESOURCES	Abundant Water Supply	Adequate Water Supply
	Significant Coal Deposit	Insignificant Coal Deposit
	Large Oil Deposits	Small Oil Deposits
	Large Natural Gas Deposits	No Natural Gas Deposits
	17% Arable Land	6% Arable Land
	Mountainous Area	Mountainous Area
	Good Grazing Land	Good Grazing Land
	Abundant Wildlife	Limited Wildlife
	60% Timber Land	23% Timber Land
	Tourism	Tourism
		Hydroelectric Power Supply
	Other Significant Natural Resources:	Lack of Other Significant Natural Resources
	Clay	
	Limestone	
	Manganese	
	Gypsum	
	Zinc	
	Lead	
	Silver	
	Copper	
	Pyrite	
	Gold	
	Mica	
	Brown Iron Ore	
	Marble	
	Feldspar	
	Kaolin	

Table 2

Student Guide

1. Describe Region A.

2. Describe Region B.

3. Hypothesize as to which of the two regions has the greatest potential for economic growth.

4. Hypothesize as to which of the two regions has the better standard of living.

5. After viewing the slides, describe Region A.

6. After viewing the slides, describe Region B.

7. Does your hypothesis from question three agree with your interpretation of the two regions after viewing the slides? Why?

8. Why might there be such a difference between the two regions?

S-2-318

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-Being.

Title: "Portland - Seattle Port Competition for Trans-Pacific Trade: Producers' Viewpoint."

Descriptor: Part A Ports of close proximity, serving coexisting hinterlands and preferential rate area are in constant competition for trade. What are some of the factors to be considered in making a decision as to this question will be hypothetically formulated by selecting a specific commodity for exportation, considering the variables involved and making a selection of a port judged most profitable. Student groups will be asked to justify their decisions from maps, slides, projections and statistics presented.

Discussion Leader: Sister Ann Marie McNamee, Madeleine School, Portland, Oregon.

* * * * *

Producers' Viewpoint

Competition between ports that can provide maximum profit calls for decision making by importers and exporters. A sound knowledge of place or the location situation is important to the student and critically important in the formulating foreign and domestic trade policy.

Concepts and skill we hop to present are: map reading; interpretation of historical data; geographical terms, "hinterland" and "preferential rates"; transportation routes; hypothezing and presenting the factors that determine the choice or advantage of one port for the shipment of wheat over the other.

Procedure:
Show slides or maps of the Port of Seattle and the Port of Portland to acquaint the student with the area under study. Overhead projection of the ports of the Northwest will help to reinforce the location and indicate the relationship of ports and waterways.

History of the Ports:

Port of Seattle: In 1911 the voters of King County created the Port of Seattle to meet impending demands for adequate facilities along Seattle's waterfront. A recent count revealed that the Port of Seattle has more than 30 piers, terminal and individual properties on the Seattle waterfront, all requiring continous management and modernization to keep pace with the demands of a world-wide marine cargo fleet that is becoming increasingly sophisticated.

Port of Portland: The first port established in the State of Oregon was the Port of Portland in 1891 by act of the Oregon legislature. In 1910, the City of Portland amended its charter to create the Commission of Public Docks, giving it the responsibility of constructing and operating marine cargo terminal facilities within the city limits. On January 1, 1971, the Commission of Public Docks and the Port of Portland were officially consolidated under the name of the Port of Portland. The Port of Portland has three terminals with 14 deep water general cargo berths, plus eight specialized berths. The Port of Portland is a fresh-water port located 110 miles inland from the Pacific Ocean.

Vocabulary (Figure 1) for port geography:
"Hinterland" - the inland trade region served by a port.

The theoretical hinterland concept has three distinct parts: (1) the primary hinterland, (2) the discontinuous hinterland, and (3) the secondary hinterland (Figure 2). An overhead projection will be used to explain the three elements of this concept. A separate hinterland exists for every commodity exported or imported through a port. Hinterlands are also identified by the type of transportation involved, i.e., air, railroad, truck, ship or inland water carrier.

A port served by liners, that is, ships that make regular scheduled calls, sometimes assumes the role of a gateway port feared to cut transit time on shipments. Both Portland and Seattle, because of their location along the shortest route from the heart of the United States to East Asia, are gateway ports.

The greatest concentration of transportation routes in the Pacific Northwest are in the productive and well populated Puget Sound - Willamette Valley Lowland and in the productive wheat producing area of the Columbia Basin. In the Columbia basin wheat growing area, highways are being improved to provide easy access for wheat trucks to the river terminals at Pasco, Kennewick, Umatilla and other Columbia and Snake River centers. Most rail rates from the delimited wheat hinterland to both Portland and Seattle are at parity. Some of the points which are served by only one railroad give preferential rates to the closest port city, but most of the points which do not have parity rates are within easy access to an alternate rail route or other transport mode.

TABLE 1

Distances for Wheat Shipments

Route	Miles
River barge on the Columbia River from Kennewich to Portland	329
Highway from Winchester, Idaho to Portland	375
Highway from Lewiston, Idaho to Portland	346
Railroad by Union Pacific from Kennewich to Portland	229
Railroad by Burlington Northern from Kennewich to Portland	230
Railroad by Burlington Northern from Pasco to Seattle	260
Highway from Pasco to Seattle	236
Highway from Lewiston to Seattle	374

GAME: "WHICH PORT"

Divide the participants into groups of five. Each group selects one as a Co-op Grain Manager. The other roles are a secretary and three wheat farmers. The farmers want to sell their wheat crop at the best price. The Manager knows the best price and market are in Japan.

The Co-op is located at the southwest corner of Lewis County in the town of Winchester, Idaho near Highway 95; twenty-two miles from the Oregon border; 18 miles east of the Washington line; 20 miles south of Lewiston, Idaho. Given the facts: 1. transportation rates; 2. modes of transportation; 3. port facilities; and 4. historical influences; which Port would be used for the export? Justify your choice of Port in a five class discussion period. In a two minute period the secretary will report to the class on your consensus, choice and justifications.

Credit and gratitude are given to the Port of Seattle, the Port of Portland for the use of pictures and materials. Mr. Paul Chilcote and Mr. Andrejs Berkis have given special assistance.
Plates 4 and 5 are credited to Ackroyd Photography Inc.

TABLE 2

AVERAGE OR REPRESENTATIVE GRAIN TARIFF RATES FROM PASCO, WASHINGTON, TO PORTLAND, OREGON

Mode of Transport	Rates
Barge	$1.85 per ton
Rail	$1.85 per ton
Truck	$0.03 to 0.05 per ton mile

500 ton barge
10 car minimum

Source: Port of Pasco Facts (Pasco, Washington: Port of Pasco, n.d.).

TABLE 3

COMPARISON OF RAIL PER-TON-MILE EARNINGS ON GRAIN FROM LEWISTON TO PORTLAND AND SEATTLE OVER THE UNION PACIFIC AND BURLINGTON NORTHERN RAILROAD ROUTES

Route	Per Ton Mile Earnings		Rail Miles	
	Portland	Seattle	Portland	Seattle
Camas Prairie & Union Pacific	$0.830	$0.553	355	533
Camas Prairie & Northern Pacific	$0.546	$0.741	540	391
Northern Pacific via Pasco	$0.447	$0.566	660	521

Note: Per car revenue is $295 for two 50 ton carload.

Source: Loss to the Public: A Study on Relocation of a Water-Grade Railroad Between Lewiston, Idaho & Riparia, Washington, Vol. 1, Compiled by the Railroad Relocation Subcommittee (Lewiston, Idaho: Lewiston Chamber of Commerce, 1966), pp. Appendix E.

TABLE 4

TYPE OF TRANSPORTATION USED TO MOVE GRAIN BETWEEN THE DELINEATED WHEAT HINTERLAND AND THE TWO PORTS[a]

County	Railroad	Barge	Truck	Truck-Barge
Idaho				
Benewah	67%	--	--	33%
Latah	80%	--	--	20%
Lewis	80%	--	--	20%
Nez Perce	60%	--	--	40%
Oregon				
Gilliam	--	--	--	--
Morrow	50%	--	--	50%
Sherman	40%	50%	10%	--
Umatilla	40%	--	--	60%
Wasco	10%	80%	10%	--
Washington				
Adams	50%	--	--	50%
Asotin	50%	--	--	50%
Benton	20%	--	--	80%
Columbia	--	--	--	--
Douglas	--	--	--	--
Franklin	25%	--	--	75%
Garfield	60%	--	--	40%
Grant	60%	--	--	40%
Kittitas	80%	--	20%	--
Klickitat	--	--	--	--
Lincoln	77%	--	10%	13%
Spokane	--	--	--	--
Walla Walla	50%	--	--	50%
Whitman	67.4%	--	--	32.6%
Yakima	--	--	--	--

[a] Compiled from: Replies to the questionnaires sent to County Agricultural Extension Agents.

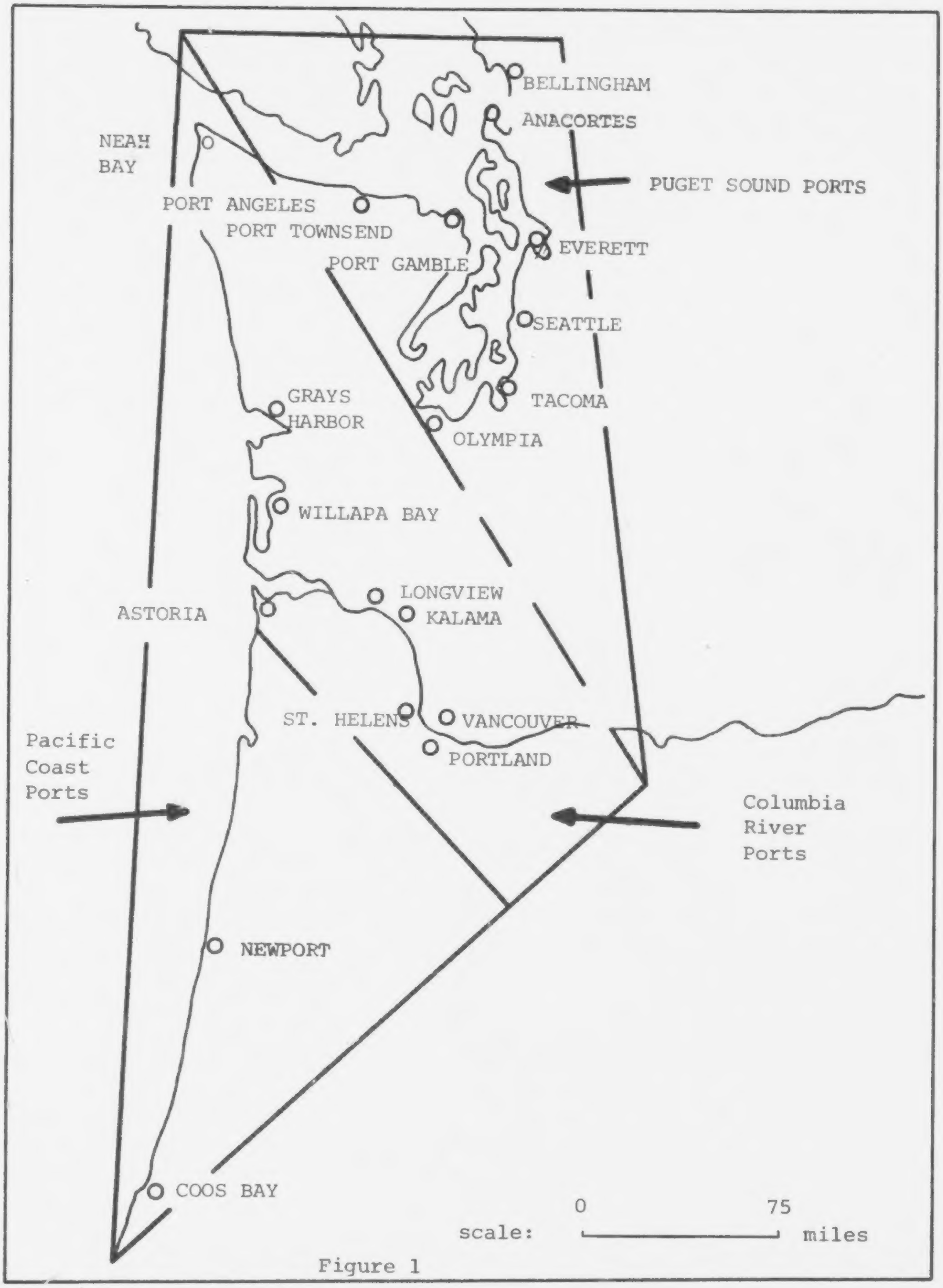

BELLINGHAM
ANACORTES
NEAH BAY
PUGET SOUND PORTS
PORT ANGELES
PORT TOWNSEND
EVERETT
PORT GAMBLE
SEATTLE
GRAYS HARBOR
TACOMA
OLYMPIA
WILLAPA BAY
LONGVIEW
ASTORIA
KALAMA
ST. HELENS
VANCOUVER
PORTLAND
Pacific Coast Ports
Columbia River Ports
NEWPORT
COOS BAY
scale: 0 75 miles

Figure 1

Pacific Northwest foreign maritime trade ports grouped according to area.

S-2-324

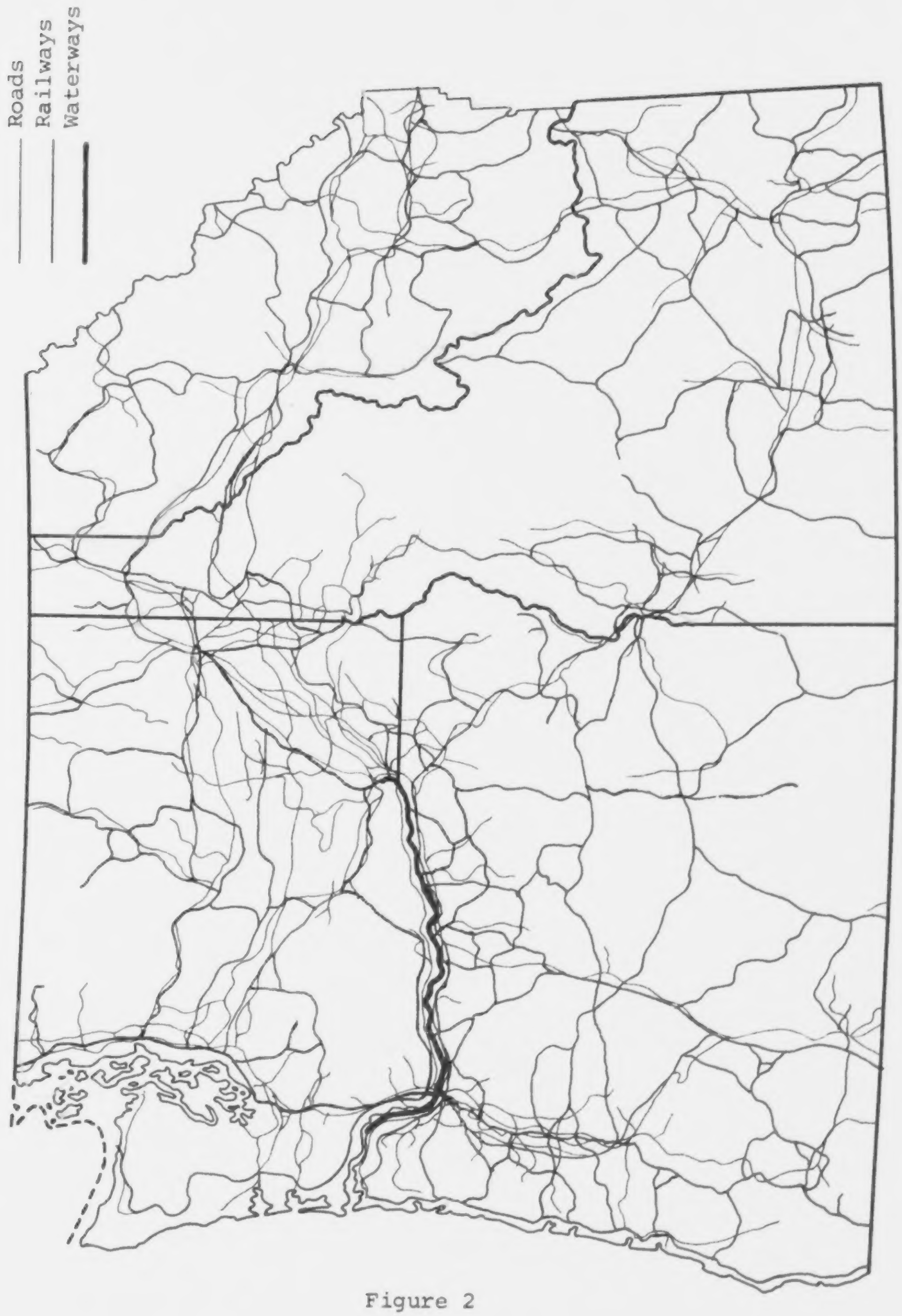
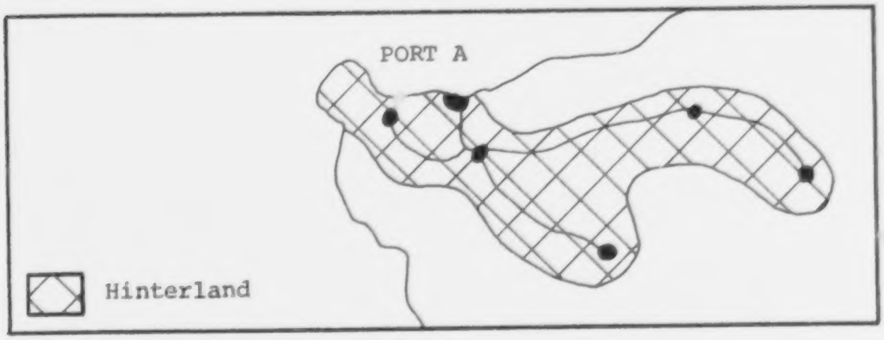
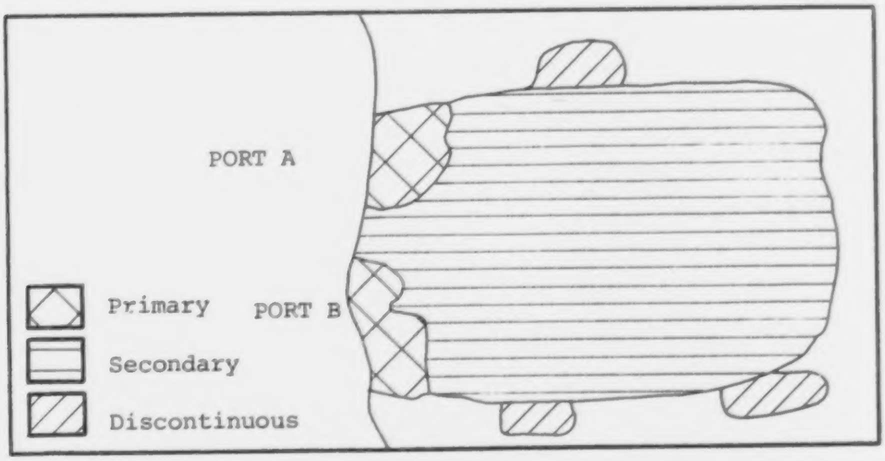

Roads
Railways
Waterways

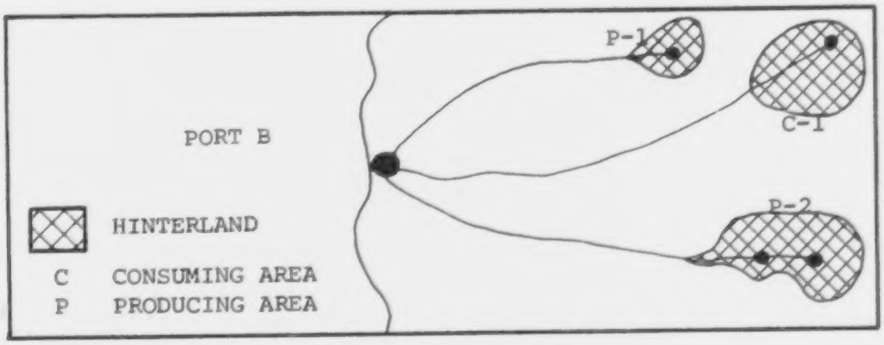
Figure 2


PORT A
Hinterland

Primary hinterland


PORT A
PORT B
Primary
Secondary
Discontinuous

Secondary or competitive hinterland


P-1
PORT B
C-1
P-2
HINTERLAND
C CONSUMING AREA
P PRODUCING AREA

Discontinuous hinterland

Figure 3

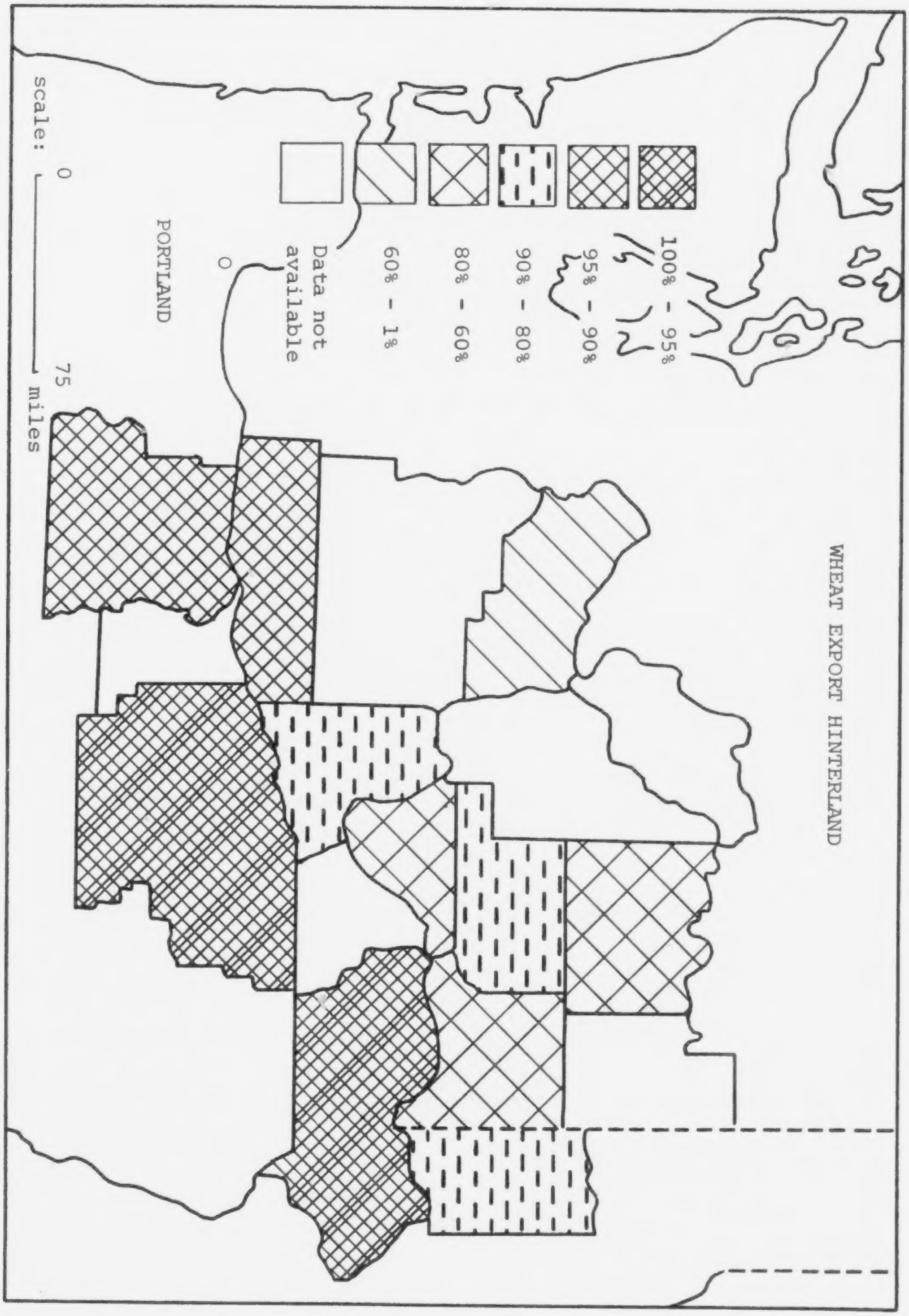
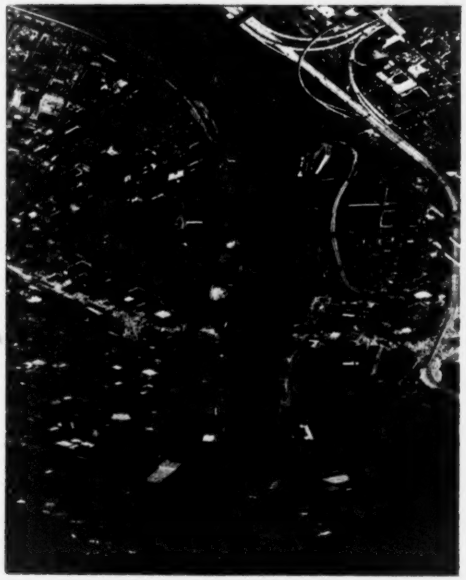
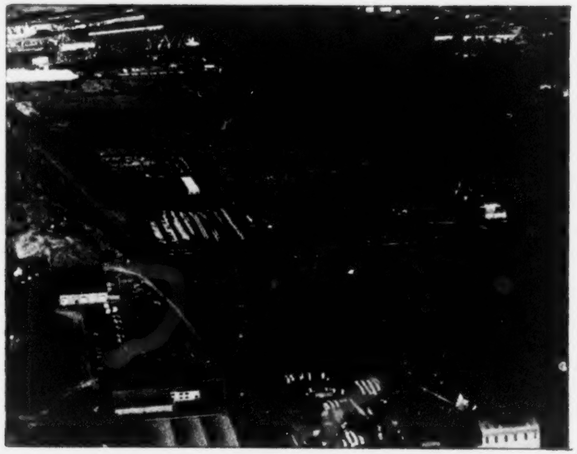

WHEAT EXPORT HINTERLAND
▩ 100% - 95%
▦ 95% - 90%
▥ 90% - 80%
☒ 80% - 60%
▧ 60% - 1%
☐ Data not available
PORTLAND
scale: 0 75 miles

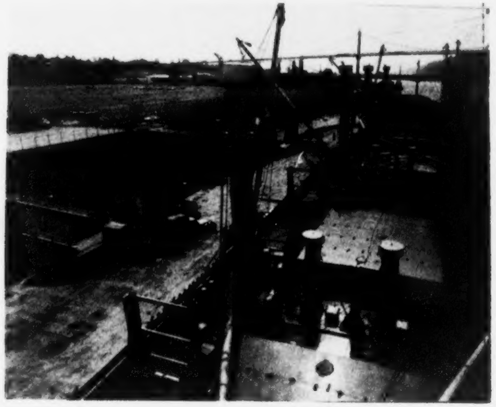
Figure 4



1. Portland has three major terminals on the Willamette River with an all weather open channel to the sea. Terminals 1 and 2 are in the upper middle left of the plate. Terminal 4 to the north is shown on Plate 2. Swan Island is in the upper right portion of the photograph.

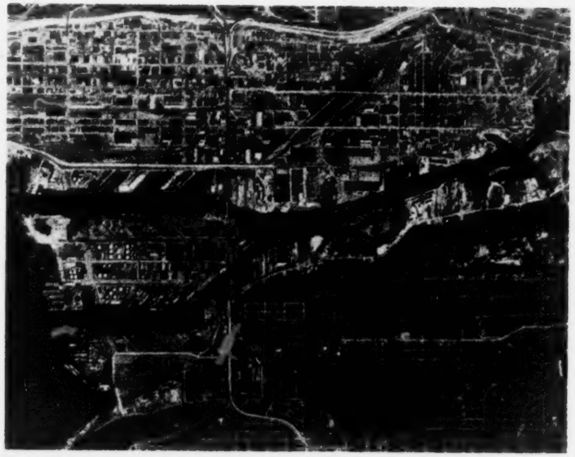


2. The automobile terminal is supported by 35 acres of paved, fenced storage and lies south of Terminal 4. With 2,400 foot floating dock, first of its kind in the Pacific Northwest, the terminal provides fast drive-off service. A second floating dock will serve this terminal.

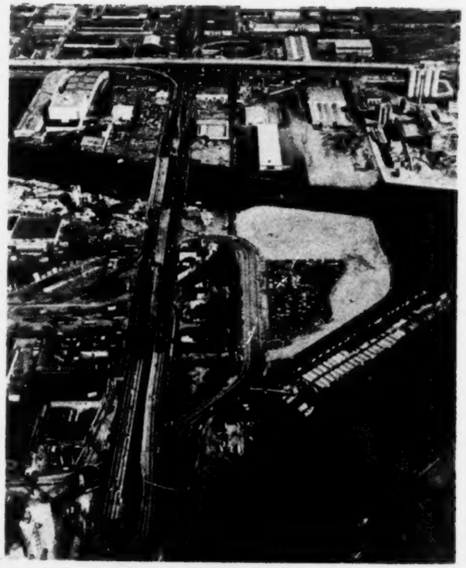


3. Here trucks are coming off the runway from the floating dock.

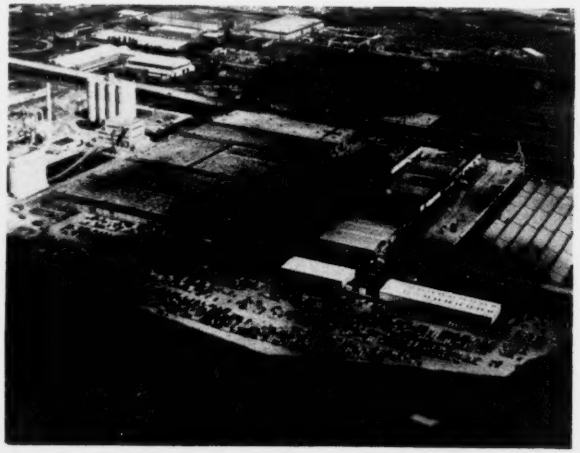
4. Dredge spoils helped to create Swan Island Industrial Park. Swan Island is the original of the Port of Portland's two major industrial parks for water oriented industries, light manufacturing and distribution. Plans are under consideration for auto terminal facilities.



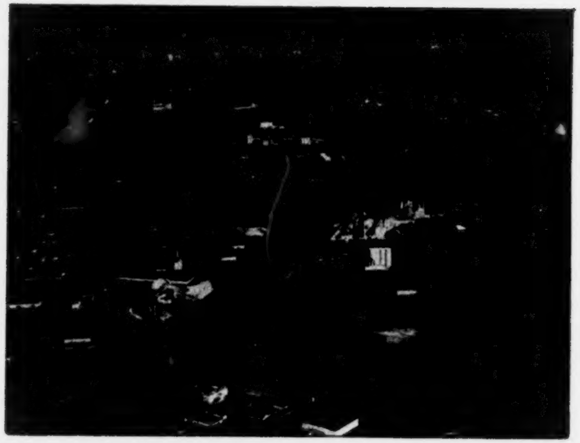
5. A 1967 view of Harbor Island and the Duwamish Waterway. In 1962 the Port of Seattle initiated expansion of the lower Duwamish to allow for added terminal sites.



6. The container freight station is located at Terminal 102. The East Waterway bisects the terminal, which is designed for loading shipping containers. A bridge will eventually connect East 102 with West 102. Both sections are used for automobile storage.



7. The warehouse at Terminal 106 covers over 590,000 sq. ft. The terminal is also used extensively as an imported automobile storage yard. A berthing may be constructed at the water's edge.



8. An oblique view of facilities of Plates 1, 2, and 3 and Elliott Bay. Terminal 115 on the lower left is the farthest south terminal and encompasses 75 acres and has a 1,200 foot wharf. It is a multi-purpose terminal and will be used for car storage. Terminal 115 can be expanded by an additional 25 acres because of the purchase of the adjacent Boeing Plant 1 site.

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-Being.

Title: "Trans-Pacific Trade Competition: Port of Portland and Port of Seattle."

Descriptor:
Part B

Which Pacific Northwest city is the best distributing center for foreign manufactured cars? Which city offers the best market? Participants will be asked to examine and analyze the data given below and the data on the attached sheets to arrive at an answer to the following query: If you were a Toyota car dealer and intended to ship your cars to the United States for distribution, which city on attached population map would you select?

Given:
1. The cost for ship travel across the ocean to any port is equal.
2. When the cars arrive they will travel by truck at 10 cents a mile.
3. When unloading the cargo from the ships, driving rather than lifting saves 75 per cent of the docking time.

Discussion Leader: Sister Alicia Amberg, St. Mary's High School, Portland, Oregon.

* * * * *

"TRANS-PACIFIC TRADE COMPETITION: PORT OF PORTLAND AND PORT OF SEATTLE

General Description of the Port of Portland and the Port of Seattle

The Port of Portland:

Portland is situated at a natural crossroads of north-south traffic between California and the Puget Sound and traffic between Portland and the Midwest. Ocean vessels must cross the treacherous Columbia River bar and sail on the Columbia River whose channel depth is 35 to 40 feet for approximately 90 miles to Portland's port facilities along the Willamette River, a Columbia River tributary. Portland's port facilities include docks, warehouses, and bulk loading machinery. In 1970, Japan was second in imports to Portland with 321,684 short tons of general cargo.

The Port of Seattle:

Seattle is located on well protected and deep waters of Puget Sound which provide ideal anchorage sites for ocean going vessels. Seattle's steaming time to the Orient is two days less compared to San Francisco and Los Angeles. The harbor is not subject to the silt deposits that the Columbia River experiences so that little or no dredging is needed to accomodate "super ship" type carriers. The port facilities located along Elliott Bay are comparable to Portland's facilities. In 1970, Japan was the second largest importer to Seattle with 373,446 tons of cargo mostly in the form of manufactured goods.

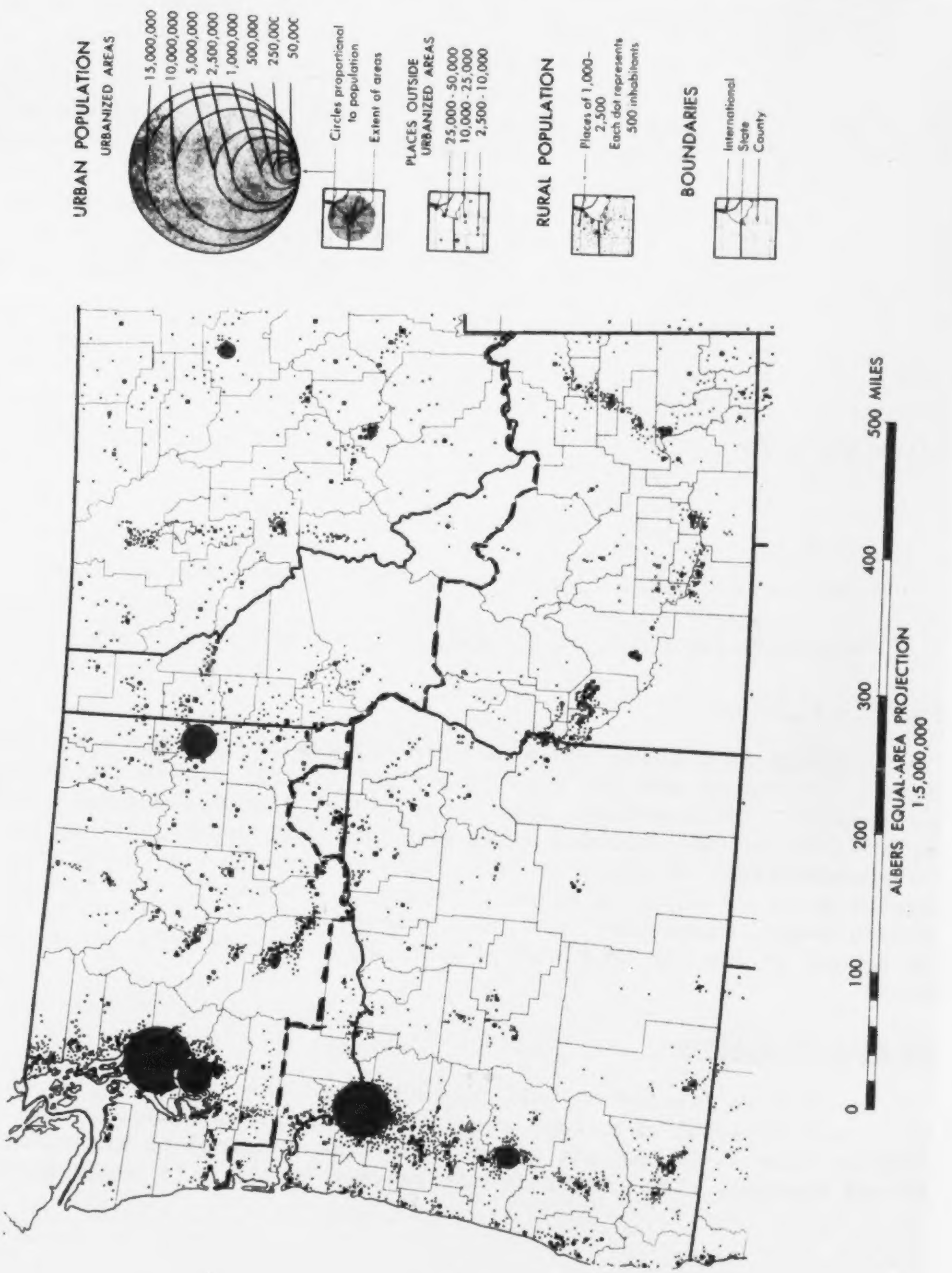

URBAN POPULATION
URBANIZED AREAS
15,000,000
10,000,000
5,000,000
2,500,000
1,000,000
500,000
250,000
50,000
Circles proportional to population
Extent of areas
PLACES OUTSIDE URBANIZED AREAS
25,000 - 50,000
10,000 - 25,000
2,500 - 10,000
RURAL POPULATION
Places of 1,000-2,500
Each dot represents 500 inhabitants
BOUNDARIES
International
State
County
0
100
200
300
400
500 MILES
ALBERS EQUAL-AREA PROJECTION
1:5,000,000

TABLE -

(A)--THE U. S. PACIFIC NORTHWEST POPULATION SHIFT 1960-1970: (All changes are positive.)

Area	1960 Population	1970 Population	Population Change
Portland Sphere of Influence:			
Oregon	1,768,687	2,056,171	287,484
Southern Idaho	508,717	536,132	27,415
Southern Washington	235,109	276,324	41,209
Total	2,512,513	2,868,627	356,108
Seattle Sphere of Influence:			
Northern Washington	2,618,105	3,076,568	458,469
Northern Idaho	158,474	164,980	6,506
Western Montana	274,194	308,472	34,278
Alaska	226,167	294,607	68,440
Total	3,276,940	3,844,627	567,693
Total Pacific Northwest	5,789,453	6,713,254	923,801

Seattle Sphere, % of Total Increase in Population $= \frac{567,693}{923,801} =$ 61.5% of Total Increase

Seattle Sphere, % of Total Population 1960 = 56.6% of Total

Seattle Sphere, % of Total Population 1970 = 57.3% of Total

(B)--SEATTLE AND PORTLAND METROPOLITAN AREAS: (All changes are positive.)

Area	1960 Population	1970 Population	Population Change	Percent Change
Seattle (King, Snohomish and Pierce Counties)	1,428,803	1,804,660	371,513	26.0
Portland (Multnomah, Washington, Clackamas and Clark (Washington) Counties)	821,897	972,593	170,589	21.0
Net Population Difference Between Seattle and Portland Areas:	606,906	832,067	200,924	

Source: U. S. Bureau of the Census: Preliminary 1970 Census Reports for Oregon, Washington, Idaho, Alaska and Montana

S-2-332

Issue: Urbanization - Industrialization: Threat or Panacea in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-Being.

Title: "Game Playing with a Bite! An Evaluative Simulation."

Descriptor: Through involvement in an evaluative simulation, students will develop insights into the factors influencing manufacturing locations. In addition, thinking and group skills are developed by organizing and designing a proposal for industrial location. This activity goes beyond most simulations in that the evaluation of students is an integral part of this activity. Evaluation serves not only its regular functions but also increases motivation and the sense of achievement.

Discussion Leader: Robert G. Johnson, Hyak Junior High School, Bellevue, Washington.

* * * * *

"Game Playing with a Bite!"

Strategy for Teaching.

The activity can involve two or more classes. In this discussion Class 1 will be a chamber of commerce group seeking a printing plant, and Class 2 will simulate the industry judging the proposal. Concurrently Class 2 will be writing proposals to attract an automobile factory, and Class 1 will simulate the manufacturer judging the proposals.

Class Guide:

Day 1

-Divide class into five groups. Each group is a city Chamber of Commerce.
-Each group designs a proposal to attract an industry specified by the teacher.
-The students design their own city (i.e. size, population, industrial factors...) in order to attract the industry.

Day 2

-Completion of proposals.

Day 3

-Student groups assume a different role...they will be manufacturers.
-Teacher leads the class in developing criteria for manufacturer's location.
-Groups rank the proposals from the other class... 1 - 5.
-By adding all rankings for each proposal an over-all ranking is

possible.

Day 4

-Return proposals as ranked by the other class.
-Follow-up as desired.

POST EVALUATIVE SIMULATIONS DISCUSSION

1. Dynamics of evaluative simulations.

2. Benefits of evaluative simulations.

    -Motivation benefits.
    -Directs attention to specific area.
    -Expansion beyond areas normally evaluated.
    -Provides greater degree of realism.

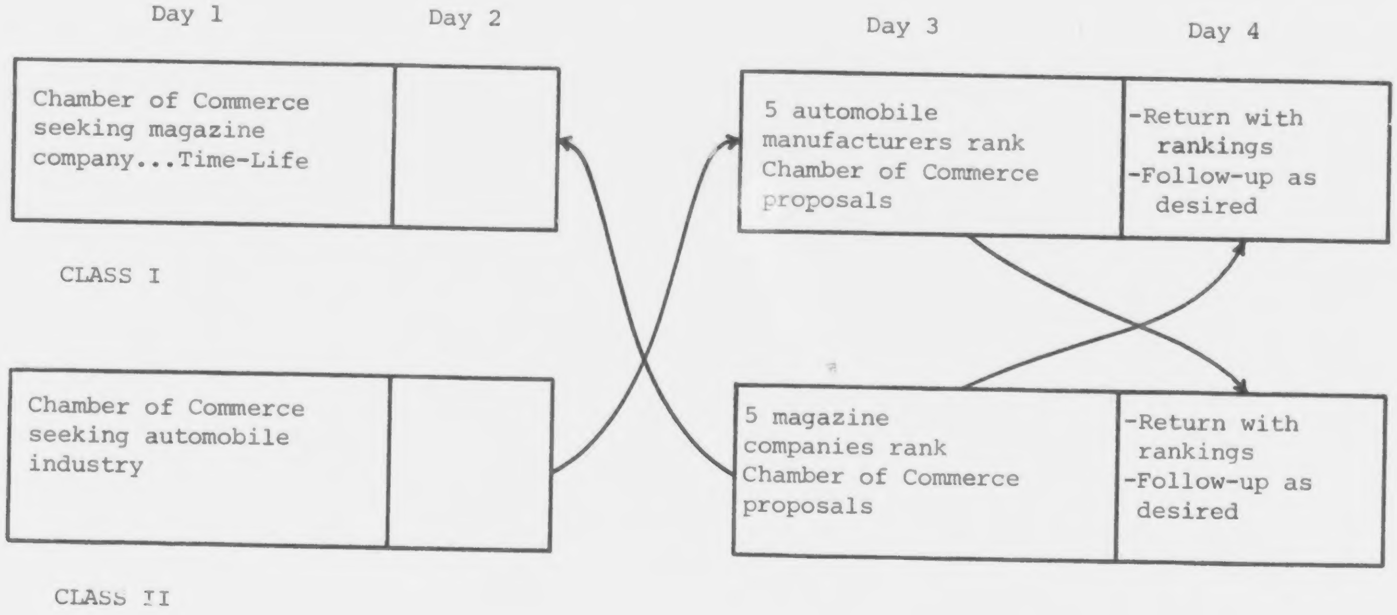

Day 1
Day 2
Day 3
Day 4
Chamber of Commerce seeking magazine company...Time-Life
CLASS I
Chamber of Commerce seeking automobile industry
CLASS II
5 automobile manufacturers rank Chamber of Commerce proposals
-Return with rankings
-Follow-up as desired
5 magazine companies rank Chamber of Commerce proposals
-Return with rankings
-Follow-up as desired

Figure 1. Flow Chart of the Strategy.

Issue: Urbanization-Industrialization: Threat or Panacea in the Twentieth Century?

Topic: Economic Development: The Quest for Material Well-being.

Title: "Population: 1 + 1 ≠ 2 Many?"

Descriptor: Can we produce enough to meet the needs of projected populations in the near future? Can technology close the gap between population growth and food production? In recent years there have been many break-throughs in the area of food research. With this research has come evidence and real optimism that the world might be able to feed its billions for many more years than its prophets of doom believe. In this exercise of guided instruction, students perceive the problems and promise in meeting the nutritional needs of the world's people. Graphs are the principal media for instruction.

Discussion Leaders:
Sister Miriam Thomas Callahan, I.H.M.
Saint Gabriel School
Philadelphia, Pa.

James H. Gommels
South East Jr. High School
Iowa City, Iowa

Kenneth L. Putney
South East Jr. High School
Iowa City, Iowa

* * * * *

"POPULATION: 1 + 1 ≠ 2 MANY?"

INVENTORY

1. The Squeeze, 11 minutes, Harris Film Co., available from Hank Newenhouse, 1825 Willow Road, Northfield, Illinois, 60095.
    a. This film presents problems that occur when large numbers of people are placed in a variety of situations, and
    b. should open class discussion on population issue with minimal teacher involvement.
2. A series of graphs presents a wealth of data for drawing many basic conclusions based on facts rather than speculation. These are found at the end of this set. Students should be directed in their search for state, nation and world populations and trends, available space, food and caloric supplies, agricultural production and trends.

PROSPECTS

Through small group discussion, students prioritize the following into what they consider to be the ten statements which show the greatest promise for feeding the world's billions and the ten statements which will be of the least help.

1. The largest concentrations of proteins are found in oilseeds.

2. Many products from soybeans (soybean fat flour, soybean milk) are heading for our tables.

3. Cottonseed is a source of protein. It is used in the incaparina protein mixtures of Central America.

4. Peanuts are a more concentrated source of protein than cereal grains.

5. In Indonesia there is a combined rice-fish culture. Fish are raised in the same fields with rice.

6. Fish protein concentrate is being produced.

7. Single cell protein is being produced by the culture of yeast or bacteria on various substrates, particularly hydrocarbons like petroleum.

8. Fungi can be used as animal feed and this is one means of utilizing a by-product of industry.

9. We throw away much protein when we throw away the green leaves of vegetables.

10. Algae have been used as a food source on extended space flight.

11. A wheat-soy blend (74% wheat, 24% soyflour, 2% vitamins) has now been developed and is on the way to some less developed nations. Wheat protein is a by-product of the milling industry.

12. Cheese whey has been used to develop two new beverages. One drink contains whey and soy flour with citrus flavoring. The other combines whey and cream with chocolate or fruit flavoring.

13. A U.S. company successfully developed a system using liquid freon for direct contact freezing of meats. This cuts down on meat spoilage.

14. A machine has been developed to harvest dwarf and broad beans. This eliminates a lot of hand labor and makes production a faster process.

15. Sweden has the world's first floating fish protein factory.

16. U.S. fishery experts are using the television satellite Telstar to spot schools of fish.

17. A new margarine has been developed in Sweden from a mixture of milk fat, soybeans and polyunsaturated oils.

18. Caffeine is being used as a feed for swine to improve live weight gains and produce a leaner meat.

19. Improvement of rice and increasing yields by nuclear irradiation is being experimented with in the Phillipines.

20. Bread is being made from cassava in less-developed countries.

21. Protein food from wool is being processed in New Zealand.

22. In the U.S., we are now extracting protein from alfalfa.

23. Sorghum grain (primarily an animal feed in the U.S.) is used as staple food in parts of Asia and Africa.

24. A food package that plugs into an ordinary wall socket to heat up a "convenience food" meal has been invented.

25. The U.S. Department of Health, Education, and Welfare has studied the possibility of using tomato cannery wastes as a supplement in the human diet.

26. Predictions were made in 1970 that simulated milks, which can be produced below the cost of dairy milk, will eventually replace dairy milk.

27. The faster the freezing, the better fresh food's characteristics are preserved.

28. In 1970 the Food and Agriculture Organization of the United Nations proclaimed that there was no longer a danger of world famine in the forseeable future.

29. In 1970, because of new agricultural technology, an increase in hardier and higher-yielding crops, new and better fertilizers, better irrigation practices, and wiser use of pesticides, food production was growing faster than the population.

30. In 1970, food production in developed countries remained about the same as in 1969, but India increased production by 5% and other Asian countries increased production by 4%.

31. Once again in 1970, Americans spent more money for beer than for bread, fresh fruit, or milk.

32. Coffee is declining in popularity.

33. General Mills is producing Bontrae, a meat substitute made from soybean protein. The product resembles a meat loaf and is available in beef, chicken, and ham flavors.

34. Frozen bread is sold in a box that becomes a baking pan.

35. The experimental development in the U.S. of chemical diets for astronauts resulted in certain new applications that will have far-reaching significance.

36. Wheat will grow at the Arctic Circle.

37. There are more than a thousand kinds of fruits which can be eaten.

38. One pound of Uranium-235 is about the size of a walnut, but it produces as much heat as 1500 tons of coal.

39. Israel is growing fruit in the Negev Desert without using a drop of irrigation water.

CONCLUSION

Do one and one equal too many? Although no right answer is expected from these activities, reasonable discussion and research by reasonable people should develop some reasonable alternatives.

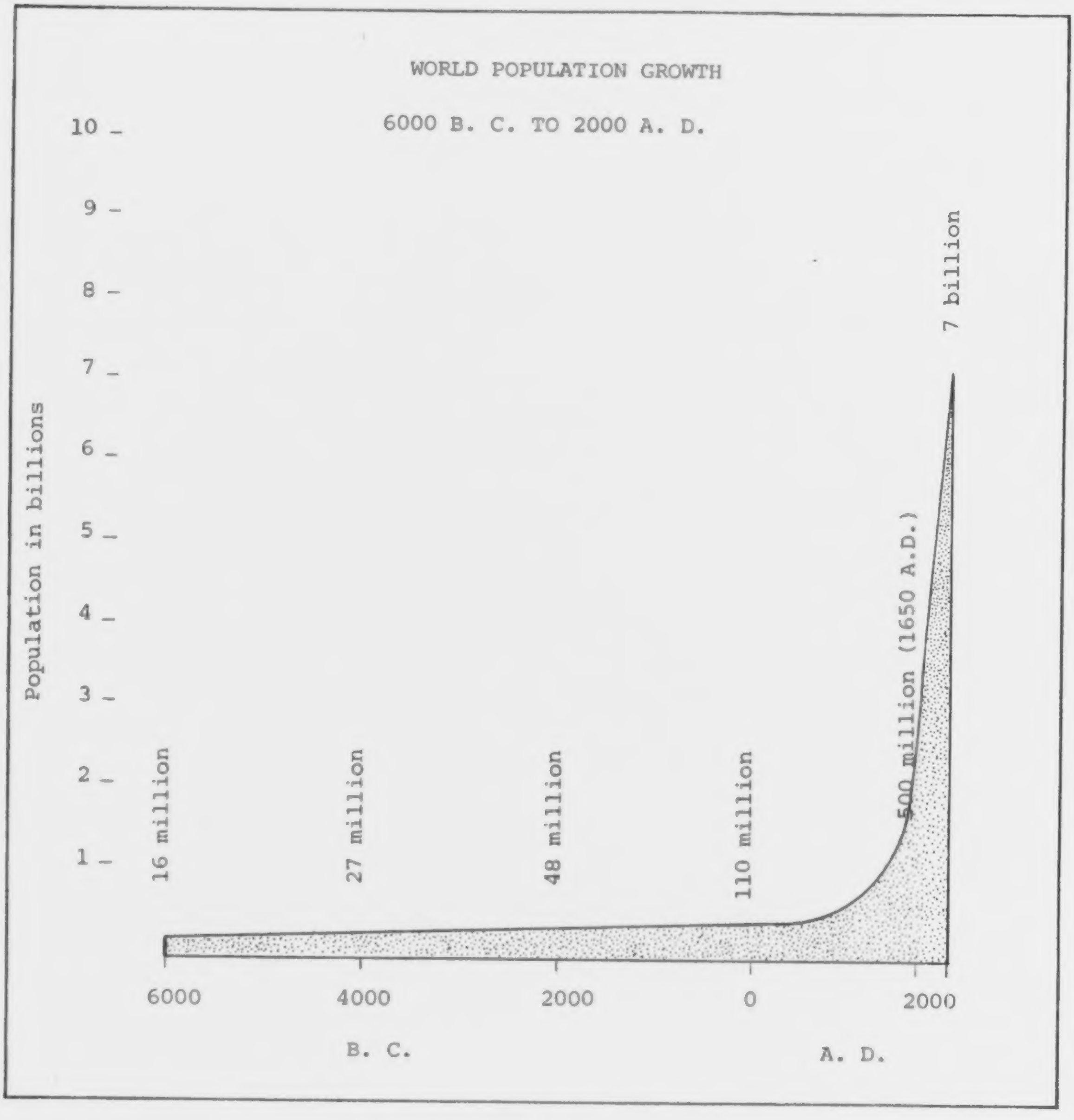


Plate 1

Source: Pop. Reference Bur.

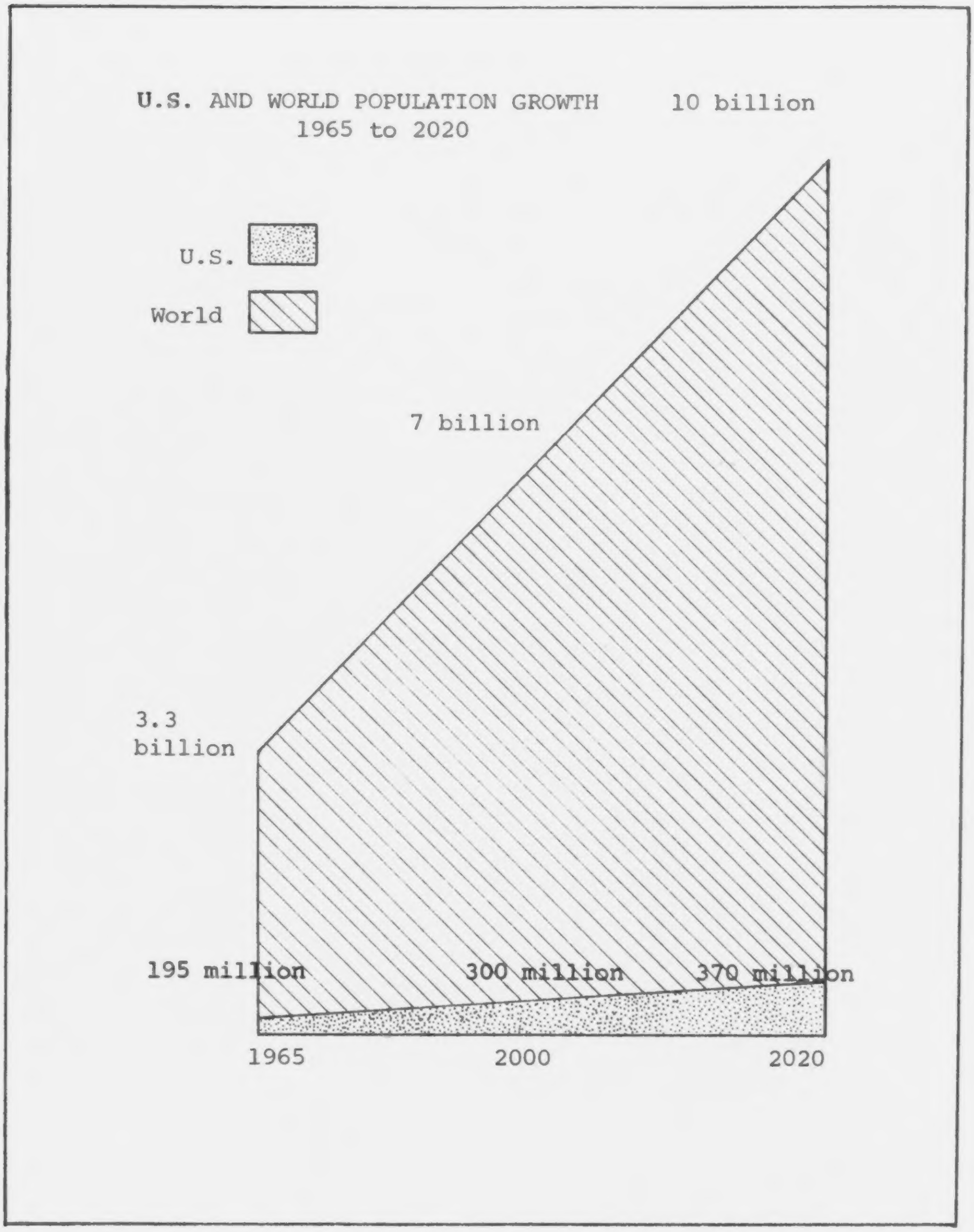

U.S. AND WORLD POPULATION GROWTH
1965 to 2020
10 billion
U.S.
World
7 billion
3.3 billion
195 million
300 million
370 million
1965
2000
2020

Plate 2

DISTRIBUTION OF THE WORLD'S POPULATION

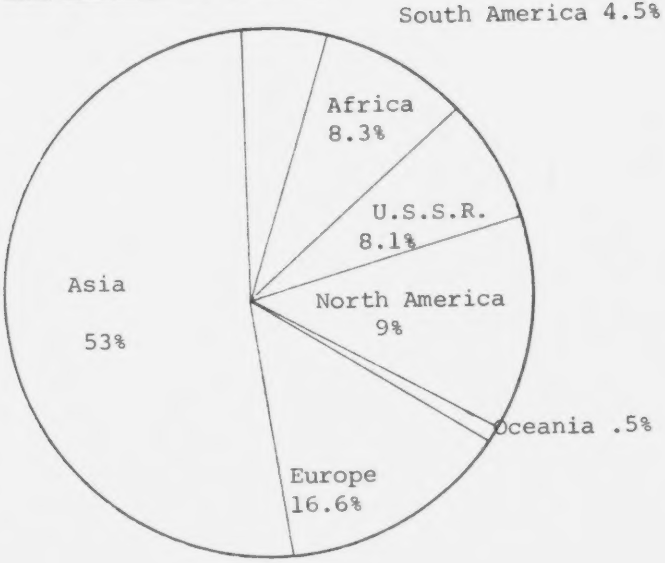


Plate 3

DISTRIBUTION OF THE WORLD'S INCOME

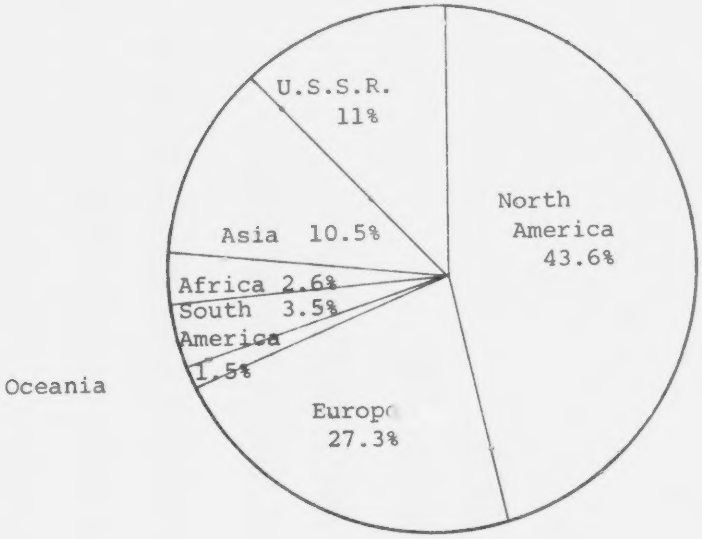


Plate 4

Source: United Nations

S-2-342

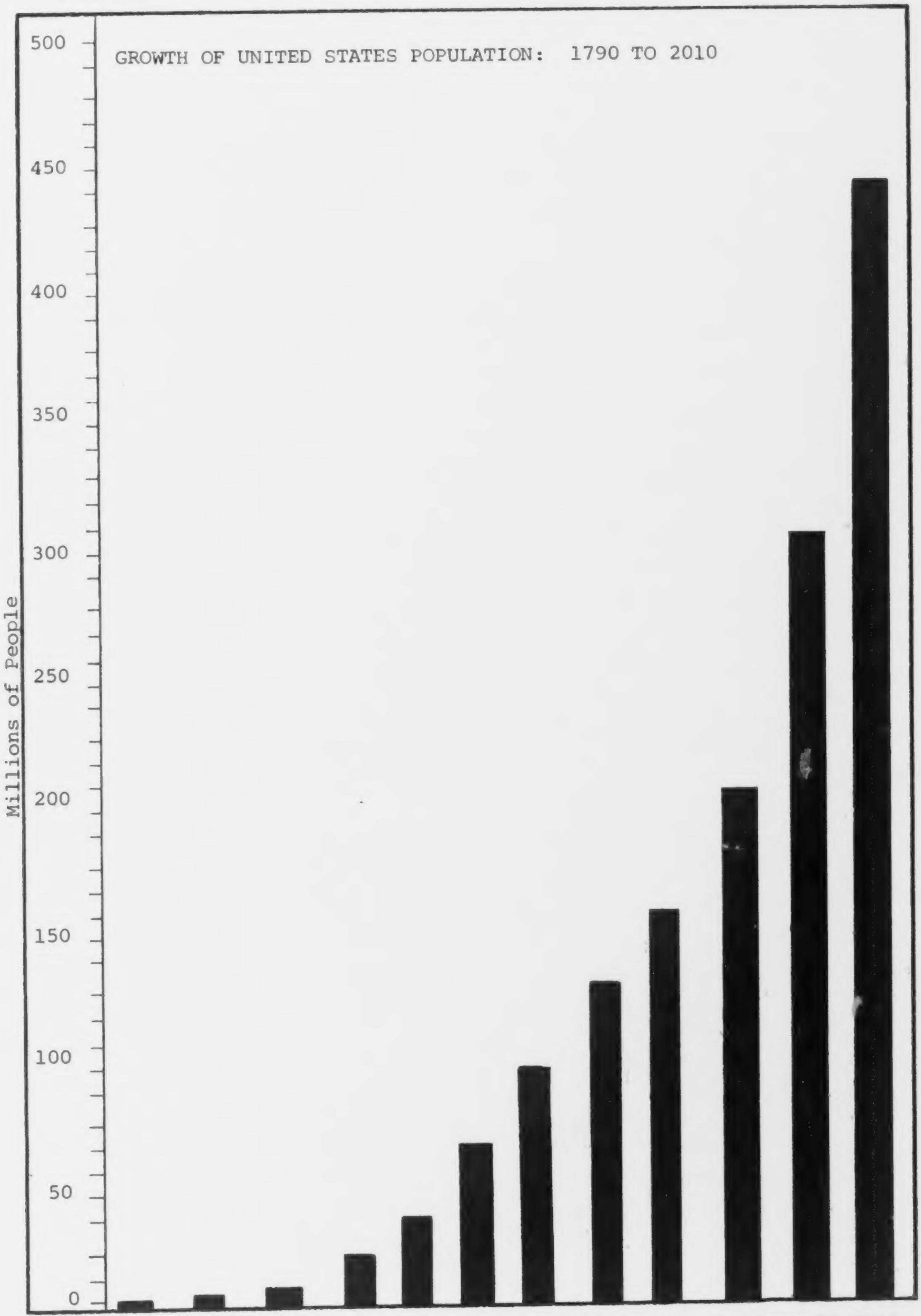
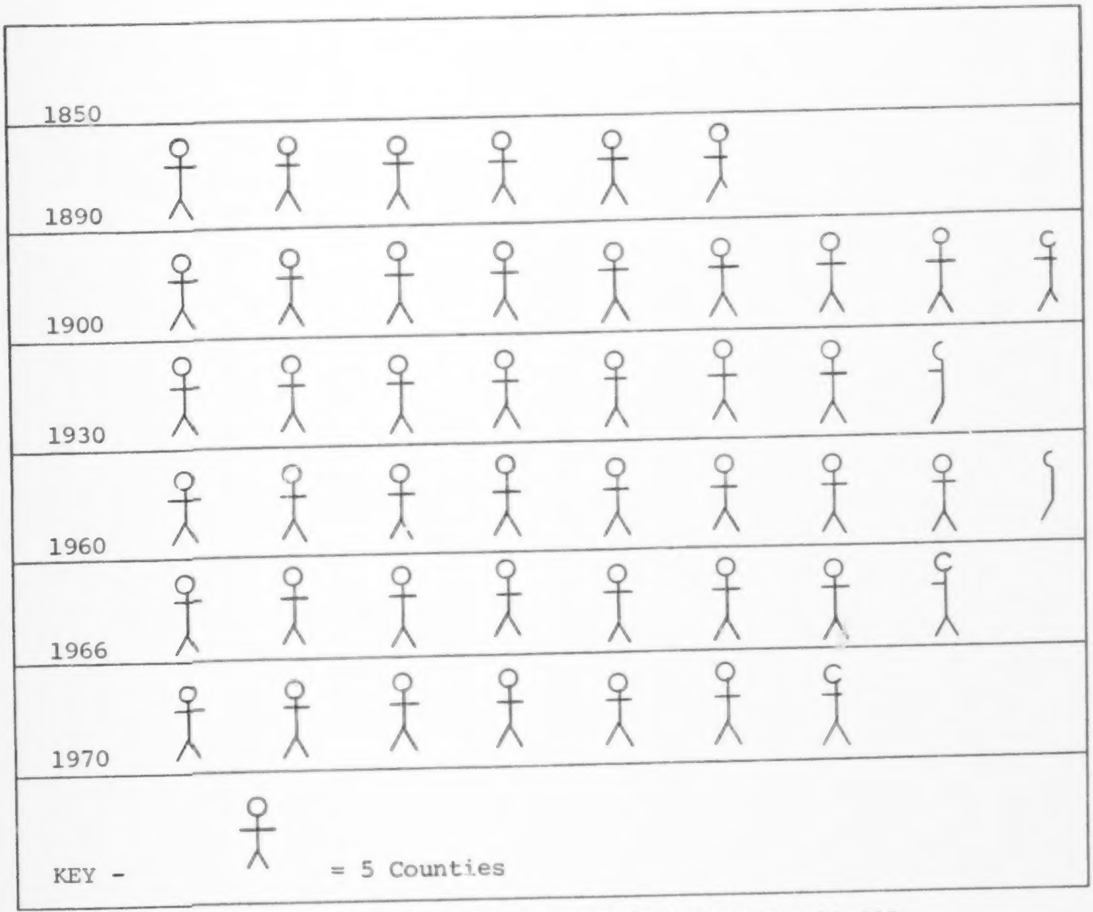
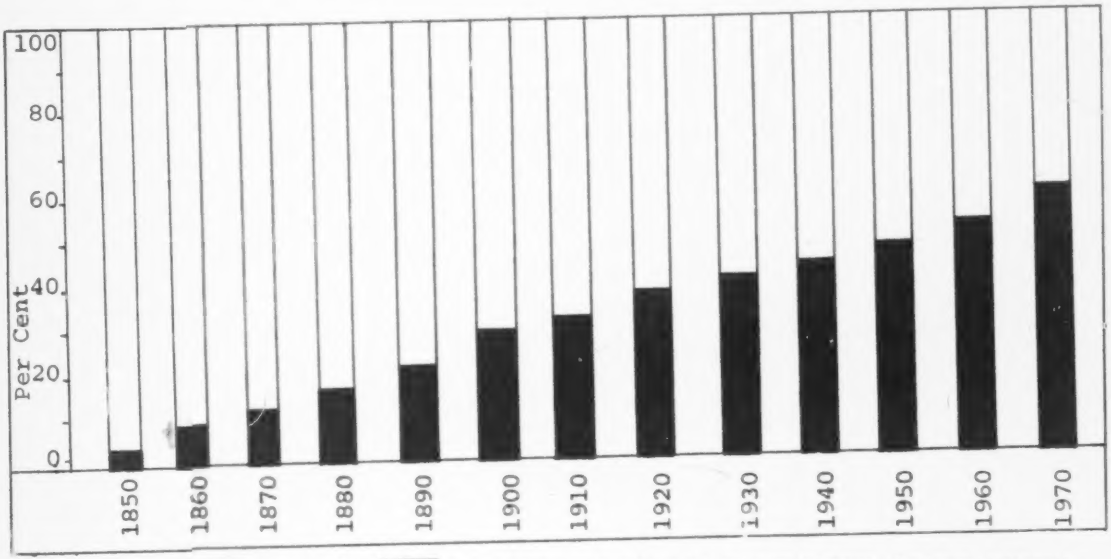


Plate 5

Source - Population Reference Bureau, U.S. Dept. of Commerce

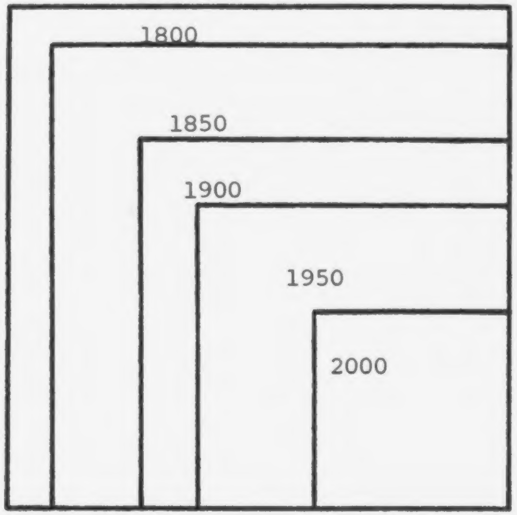


FREQUENCY OF IOWA COUNTIES WITH A POPULATION OF OVER 20,000
Plate 6



Urban ■ Rural ☐ CHANGES IN IOWA'S POPULATION (RURAL-URBAN)
Plate 7 Source - Census of State of Iowa

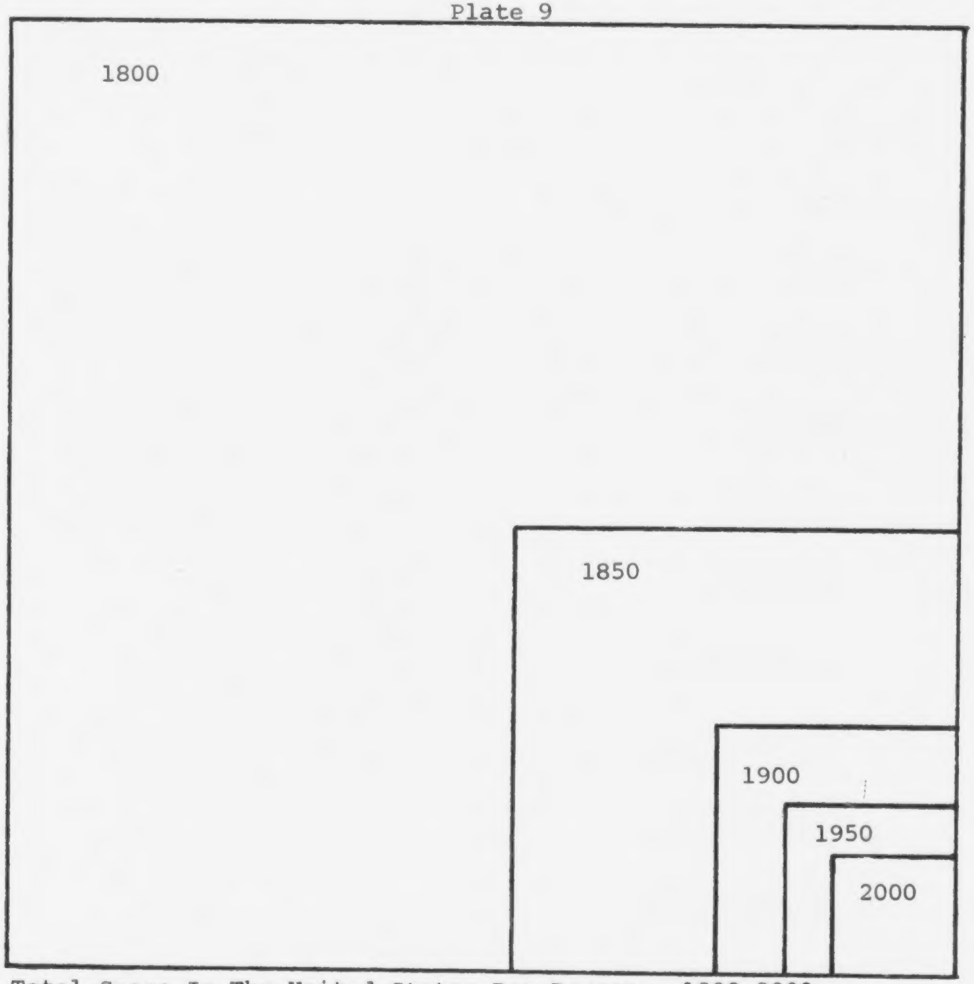
Plate 8



Total Space on The Earth Per Person
1800-2000 A.D.
(Land and Water in Acres)

1800 - 137 Acres
1850 - 111 "
1900 - 71 "
1950 - 50 "
2000 - 20 " (Projected)

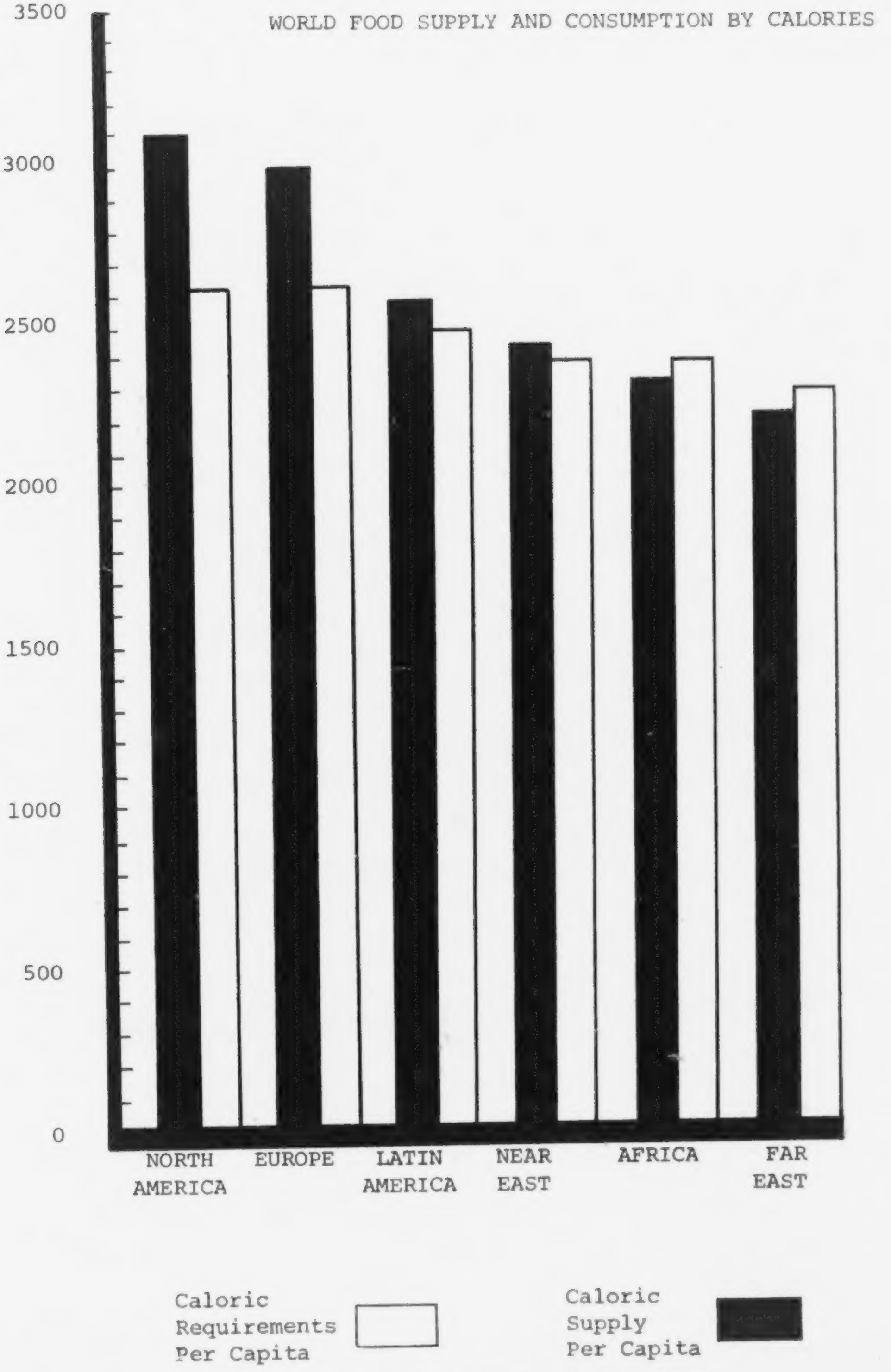
Plate 9



Total Space In The United States Per Person - 1800-2000
(Land and Water in Acres)

1800 - 471 Acres
1850 - 102 "
1900 - 31 "
1950 - 15 "
2000 - 7 " (Projected)

Source: Population Reference
Bureau, U. S. Dept.
of Commerce



WORLD FOOD SUPPLY AND CONSUMPTION BY CALORIES

Source: F.A.O. Balance Sheets 1967
Plate 10

INDEXES OF AGRICULTURAL PRODUCTION IN THE
DEVELOPED AND LESS DEVELOPED COUNTRIES*

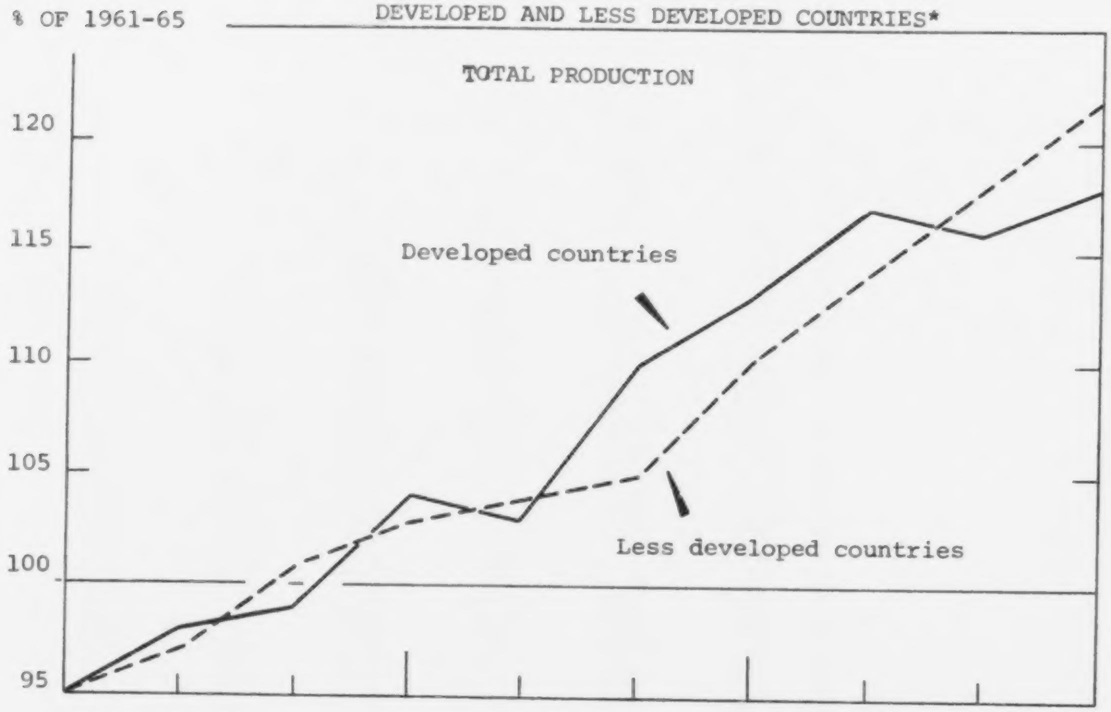


Plate 11

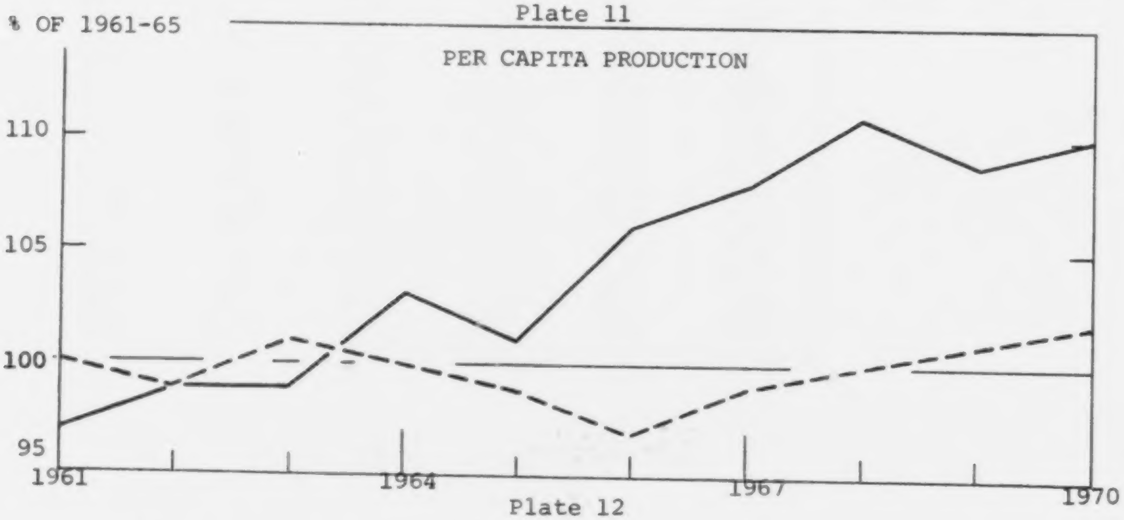


Plate 12

*Excluding Communist Asia.
Source: Foreign Regional Analysis Division, Economic Research Service, March 1971.

S-2-347

INDEXES OF PER CAPITA
AGRICULTURAL PRODUCTION
IN THE MAJOR LESS DEVELOPED REGIONS*

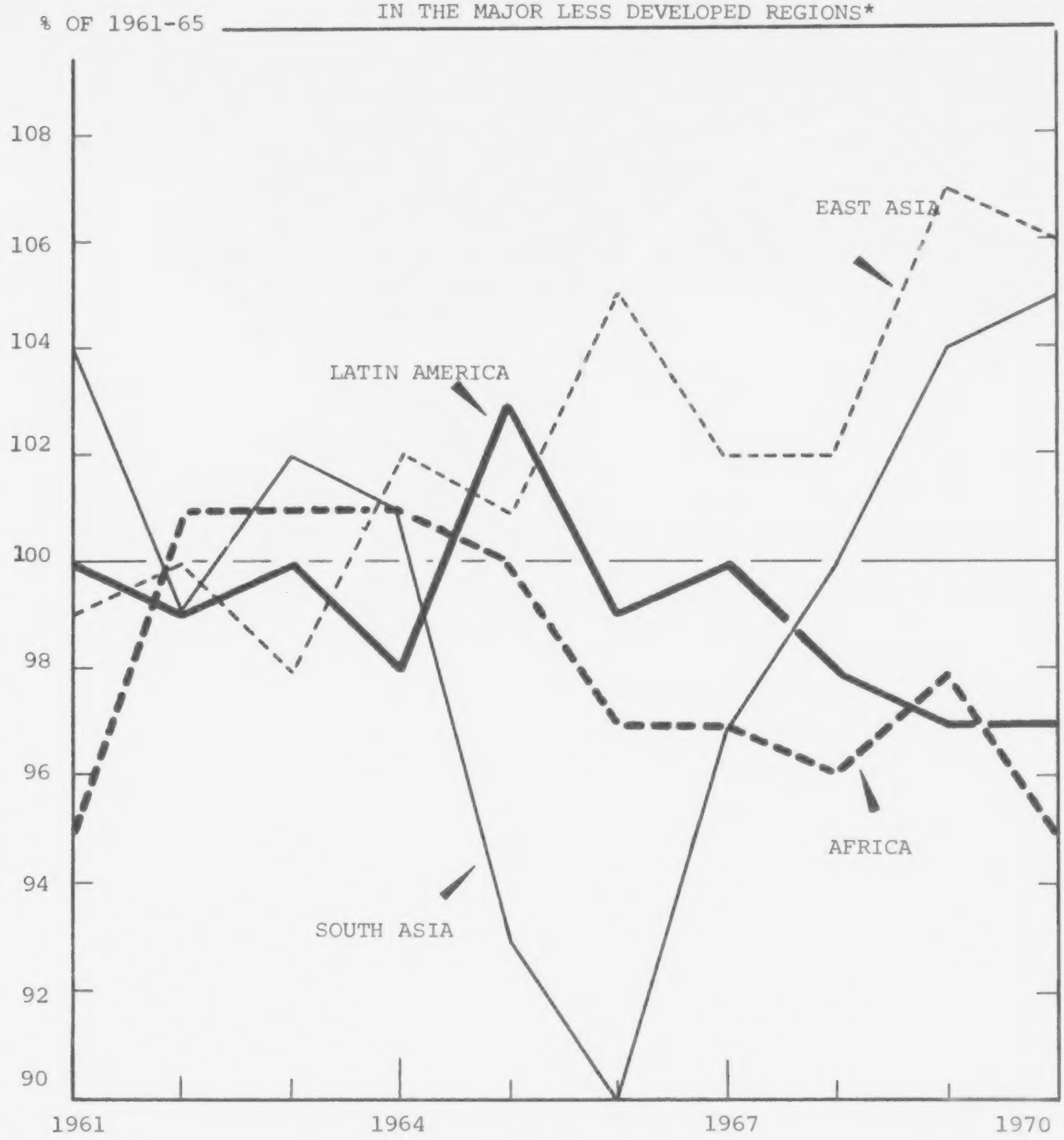


Plate 13

* Excluding West Asia and Communist Asia.
Source: Foreign Regional Analysis Division, Economic Research Service, March 1971.

S-2-348

Issue:	Urbanization - Industrialization: Threat or Panacea in the Twentieth Century?
Topic:	Economic Development: The Quest for Material Well-Being.
Title:	"Agricrisis: A Probe into Man's Agricultural Needs in Developing Countries."
Descriptor:	Students assume the roles of Agra Corps volunteers who are assigned to the Prefecture of Boko to locate four Modernization Centers.
Discussion Leader:	Sister Patricia Wendell, OSF, Saint Lawrence School, Catasauqua, Pennsylvania.

* * * * *

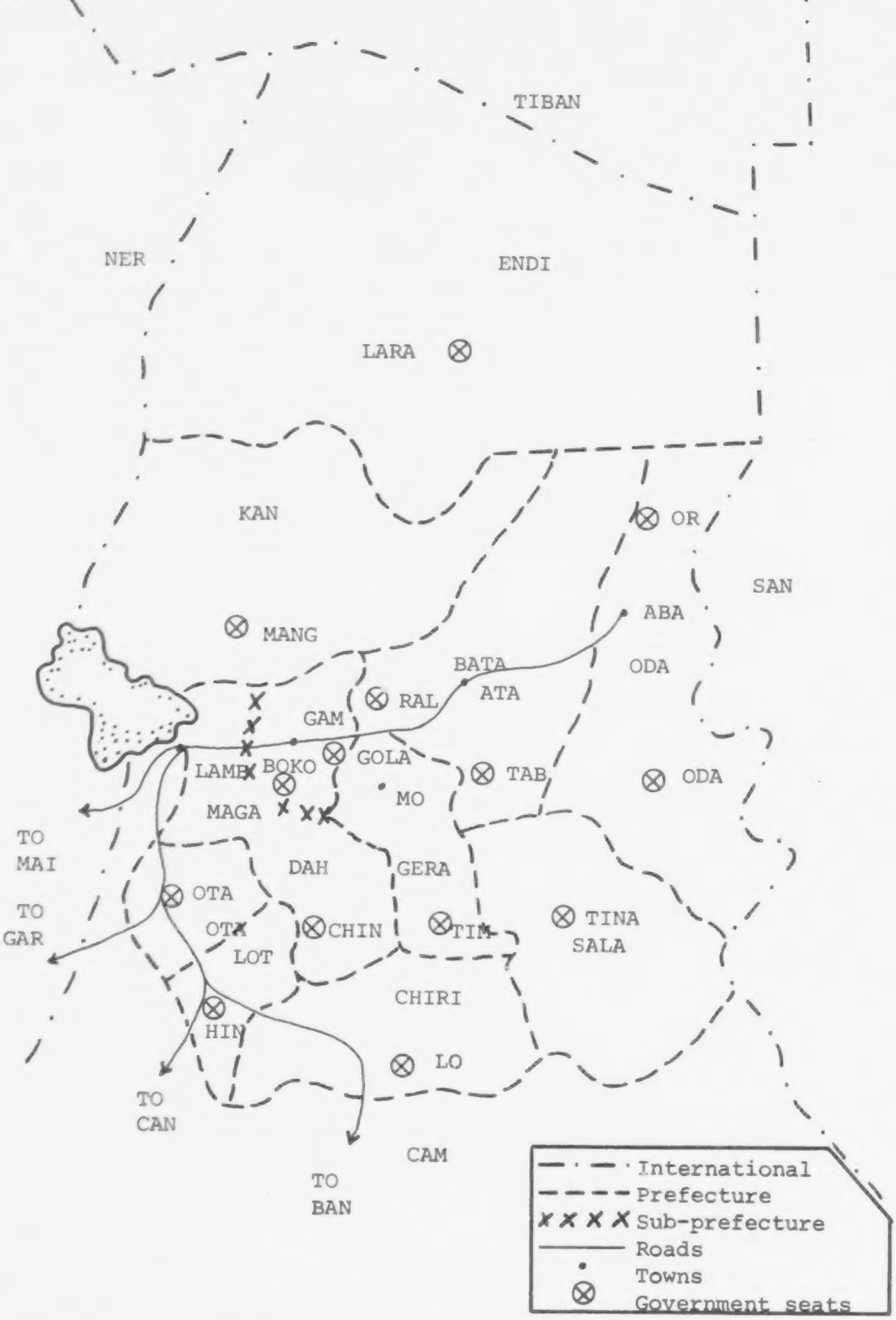
AGRICRISIS

Like any simulation game, "Agricrisis" involves the student in the discovery of a life-experience. This particular section of the game develops students' insight into some of the motives and techniques of foreign aid to an underdeveloped nation. Economic and cultural problems are encountered by students as they seek open-ended solutions to the location of four Modernization Centers. Critical reading and thinking are encouraged as the students study background material. Role playing and discussion also play important parts in the students' decisions.

OVERVIEW OF GAME

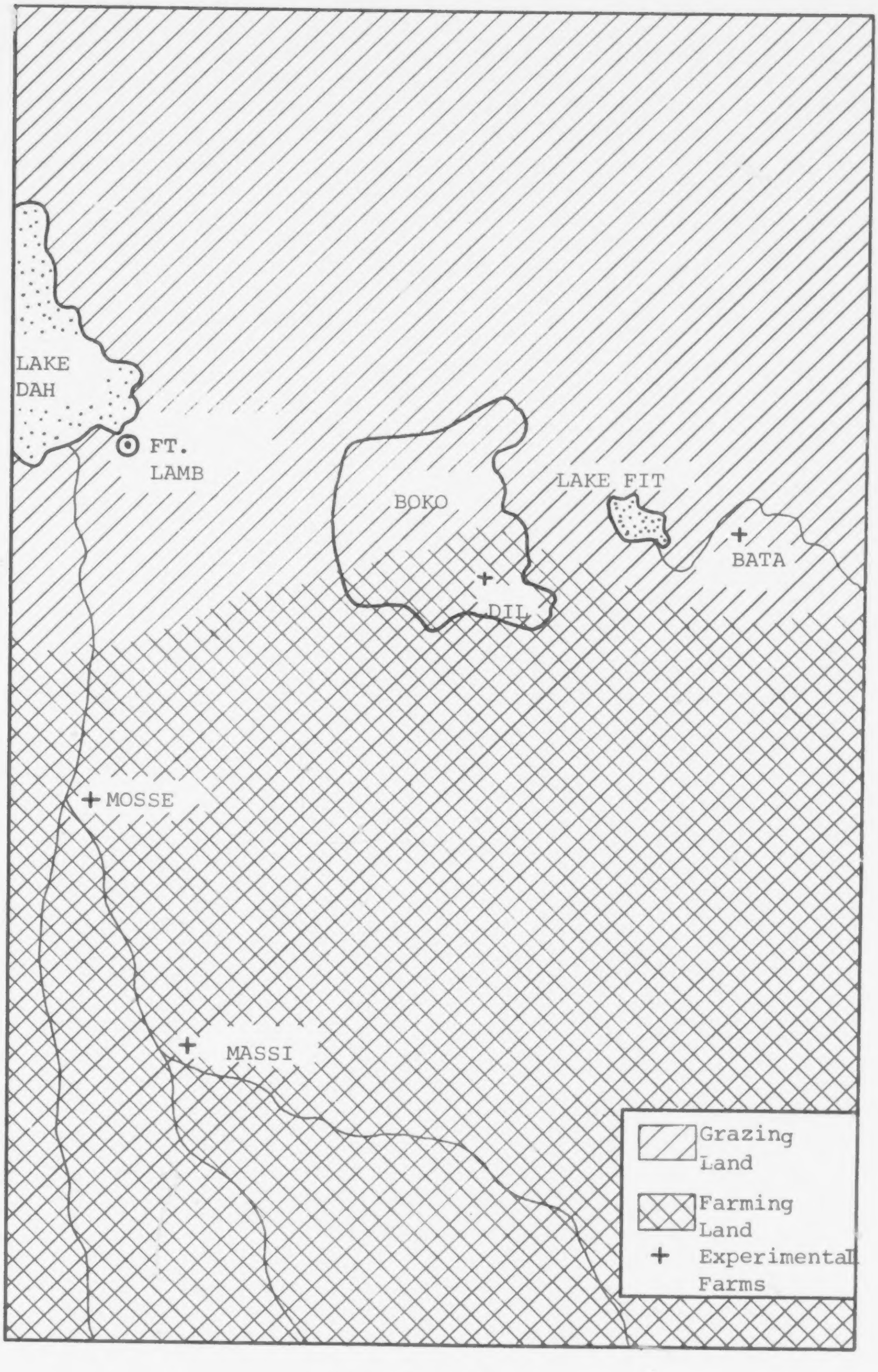
Parts	Time in 50 Min. Periods	Materials	Major Ideas and Skills
BRIEFING	1 (shortened for this presentation	cassette Background materials	Incentive Introduction to game and tasks Cultural relativism
BUDGET	3 (not presented a this session)	Role Cards "Budget Sheets" Section of Conference Sheets Outcome Cards	Critical reading Scientific inquiry Budgeting for agricultural development Recognizing the influence of physical environment
MODERNIZATION CENTERS	2 (shortened for this presentation	Role cards Maps Section of "Conference Sheets" Outcome cards	Critical thinking Utilizing physical and cultural landscape
PRODUCE COLLECTION CENTERS	2 (NOT PRESENTED AT THIS SESSION	Similar to Modernization Centers	Same as above
EVALUATION	1 (shortened for this presentation	Discussion	Justifying decisions

S-2-350


TIBAN
NER
ENDI
LARA
KAN
OR
SAN
MANG
ABA
BATA
ATA
ODA
RAL
GAM
GOLA
TAB
ODA
LAMB
BOKO
MO
MAGA
TO MAI
DAH
GERA
TO GAR
OTA
OTA
CHIN
TIM
TINA
SALA
LOT
CHIRI
HIN
LO
TO CAN
CAM
TO BAN
International
Prefecture
Sub-prefecture
Roads
Towns
Government seats

LOCATION OF PRINCIPAL ROADS - DAH

Figure 1


LAKE
DAH
FT.
LAMB
BOKO
LAKE FIT
BATA
DIL
MOSSE
MASSI
Grazing Land
Farming Land
+ Experimental Farms

LAND USE - DAH
Figure 2

MODERNIZATION CENTER ROLE CARD

You are an Agra Corps volunteer hired by the Ministry of Agriculture in the Republic of Dah to locate the four modernization centers planned for the Sub-Prefecture of Boko. In your planning refer to the information given you in the "Briefing Cassette" and the background maps you have been given. Give your reasons for your choices and any anticipated problems with their probable solutions on the section of the "Conference Sheet" marked "Modernization Centers". Locate the sites of the four centers on the "Modernization Center Location Map". Your work will be discussed and evaluated at an Agra Corps Conference.

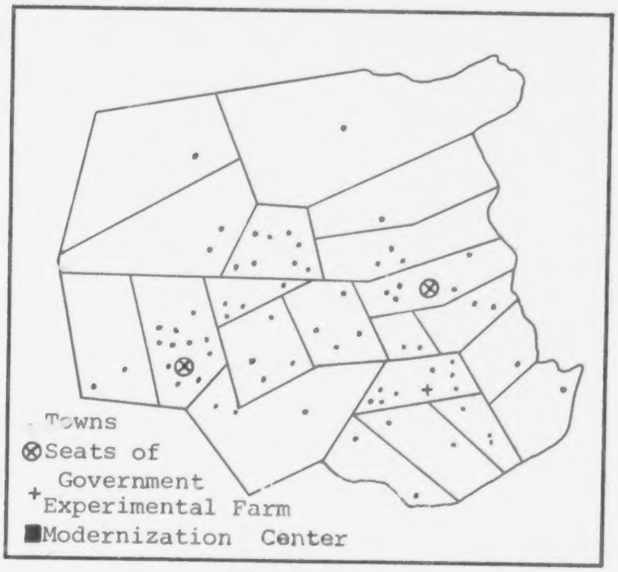


Figure 3

AGRA CORPS CONFERENCE SHEET

MODERNIZATION CENTERS

State names of regions or cantons where you have located the four modernization centers and the reason(s) for each:

____

____

____

____

State problems you feel the nationals will have in accepting these locations or reasons why you think they will be accepted: ____________

____

____

____

MODERNIZATION CENTER OUTCOME CARD

The following centers were chosen in the actual sub-prefecture on which this study is based.

GAM - chosen for its location on a highway
GOLA and MAGA - are seats of traditional government
DIL - already the site of an experimental farm

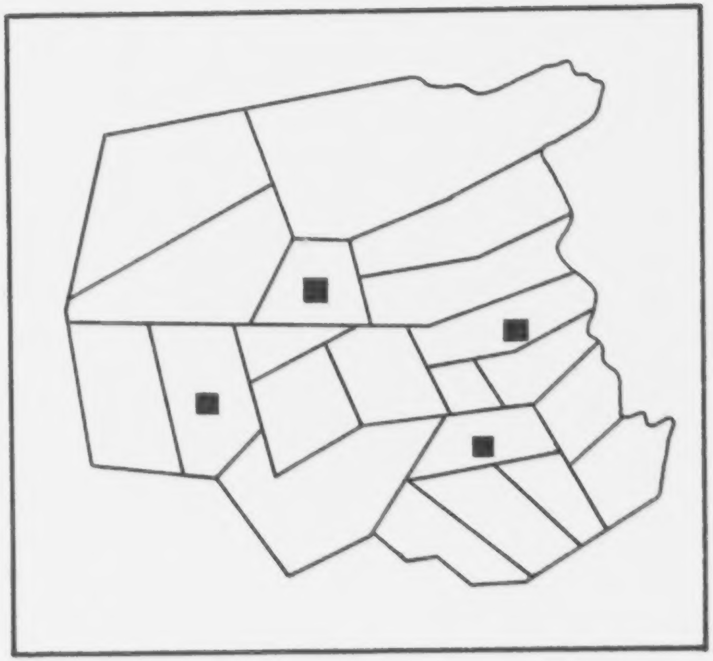


Figure 4

S-3-354

Issue:	Socialization: Frontiers, Melting Pots, and Other Myths.
Topic:	Migration: Mayflowers Old and New.
Title:	"Cultural Migration: Snowballs in the Sahara?"

Descriptor:

I. Examine two aspects of socialization that the simulation game will later explore.
   a. How do environmental variables affect cultural patterns?
   b. How does mutation result in adapted cultural patterns?

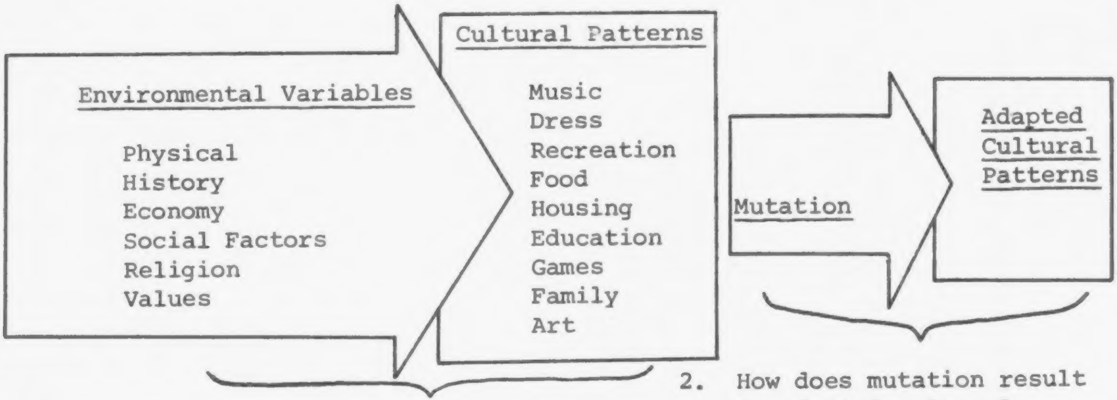
II. Do the simulation game

III. Evaluate the simulation game activity.
   a. Methods of summarizing the simulation game.
   b. Expansion of the simulation.
   c. Evaluation of student growth.

Discussion Leader: Robert H. Weston, Bellevue School District, Bellevue, Washington.

* * * * *

I. Two aspects of socialization


Environmental Variables
Physical
History
Economy
Social Factors
Religion
Values
Cultural Patterns
Music
Dress
Recreation
Food
Housing
Education
Games
Family
Art
Mutation
Adapted Cultural Patterns

1. How do environmental variables affect cultural patterns?

2. How does mutation result in adapted cultural patterns.

II. Simulation game: Cultural migration

1. Divide the class into six groups.

2. Pass out environmental variable descriptions (one per group).

3. Have students familiarize themselves with the description. Have students add to the basic description items that would also be present in the community.

4. With their environments firmly in mind, the students invent a game that people could play in such an environment. (The amount of time given will determine the extensiveness of the game and the report to the class.)

5. Each group will describe the environment and the game they invented. (Games as a cultural pattern was chosen as a follow-up to "A Lesson in Sports" (Activity 2), Cultural Geography, Unit 3 of the High School Geography Project. Other cultural patterns or environmental variables could be used.

6. Each group will exchange the game it developed with another group who will then adapt the game to their culture. For example, the people in Dry Sands adapt the Northlands game to their environment and culture.

7. Each group will report to the class the game they received and how it was adapted to their environment.

Sample environmental variable descriptions.

NORTHLANDS - Snow and ice covering most of the year
- A few brushes and trees during three months of the year

* * * * *

DRY SANDS - Temperatures during the day about 110°
- Very sparse grass areas to feed your goats

* * * * *

RIVERSWAMP - Your tribe of thirty has cleared a small area of jungle on a large tropical river

* * * * *

MOD TOWN - A metropolitan area in the future
- Work week is only 15 hours long
- Only one third of the adults need work to sustain the high affluence of the society
- The government has just given you 2 billion dollars to improve recreation and sports in your city

* * * * *

MARSVILLE - A militaristic city state at periodic war with the city states around you. This has been going on for centuries

- The government is naturally concerned that all people develop the right attitudes and skills to defend Marsville

* * * * *

COOLITBURG - Your culture does not believe in open competition
- To display one's wealth is thought to be vulgar
- The highest values of this society are the development and maintenance of trust, concern, and mutual help

* * * * *

III. Guidelines for post simulation game activity

A. Methods of summarizing the simulation.

1. When its better to do nothing.
2. Discussion alternatives.
    a. Who else but the teacher?
    b. How to do it
3. Written alternatives.
    a. Don't "answer the questions"
    b. Going beyond the questions
4. A quiz is a quiz - or is it?

B. Expansion of the simulation game.
Parkinson's law and student growth

C. Evaluation of student growth.

Issue:	Socialization: Frontiers, Melting-Pots, and Other Myths.
Topic:	Migration: Mayflowers Old and New.
Title:	"Migrants in the United States and the Problems of Assimilation."
Descriptor:	Sources of migration to the students' home city, and the problems that incoming migrants encounter, can be examined in the classroom through use of newspaper obituaries, "geographic" family trees, "migration field" maps, and a model of migrant assimilation.
Discussion Leaders:	Curtis C. Roseman and Michael J. Halbach, Department of Geography, University of Illinois, Urbana, Illinois.

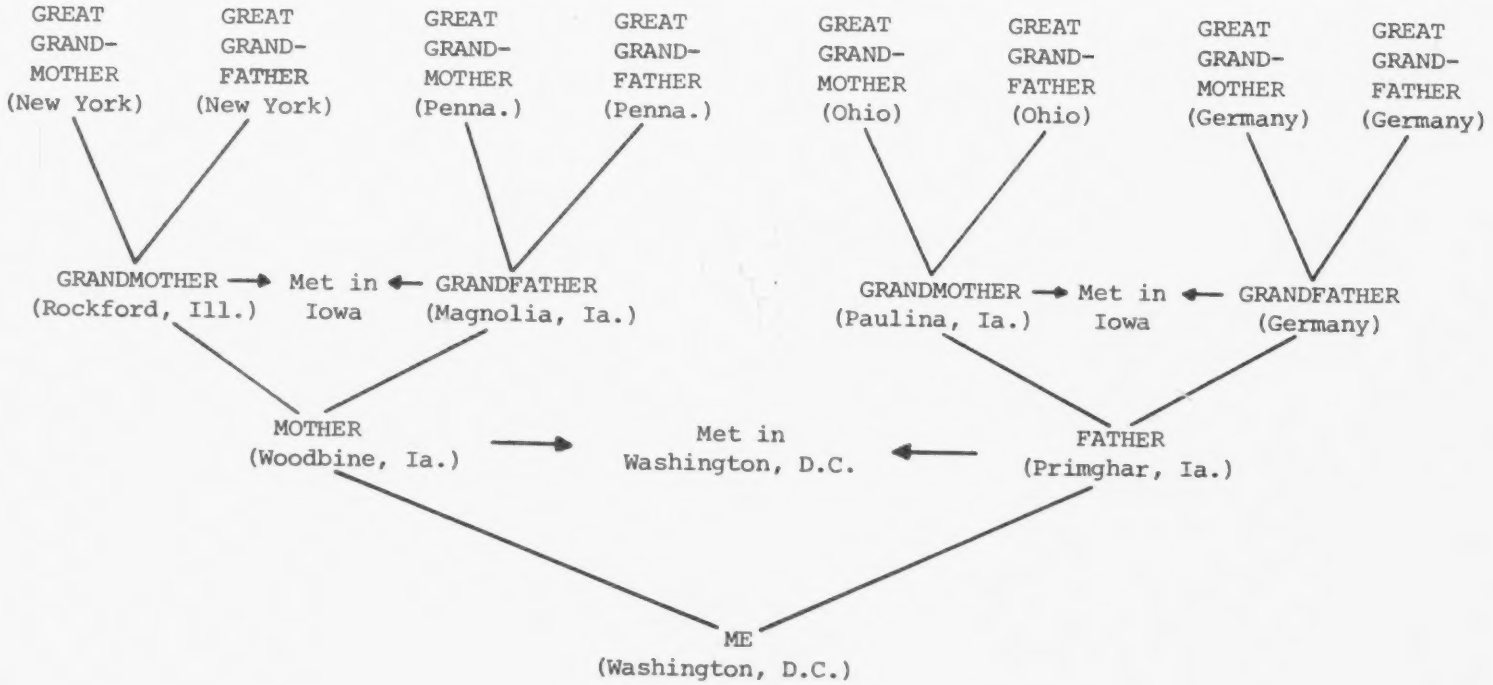
* * * * *

Migrants in the United States and the Problems of Assimilation.

The four accompanying figures illustrate ways in which generalizations about the process of population redistribution (migration) can be taught in the classroom. The method is to carry out a case study of the class' home town or city (or neighborhood of a large city), examining the mix of people who have migrated thereto, and problems that they may have encountered.

A "geographic family tree" (Figure 1) can be constructed by each student to illustrate the mobility in his own family background. Besides allowing the student to identify personally with the idea of migration, important migration trends can often be illustrated--in our example, the parents were both born in Iowa, migrated separately to the "big city" (Washington, D.C.), were married there, then returned to Iowa. This illustrates the well-known rural-to-urban migration trend; but also the less known existence of return flows. Figure 2 shows the wealth of information on "geographic life histories" that can be garnered from obituaries. The example illustrates three main source areas of migrants to Rockford, Illinois: 1) Sweden, 2) areas of the lower Mississippi Valley, and 3) small towns in nearby Illinois and Wisconsin. Figure 3 illustrates how similar generalizations can be demonstrated by mapping census data. Here, the "migration field" (areas from which large numbers of migrants come) of Muncie, Indiana is composed of flows from nearby (mostly in Indiana), and from particular areas of Kentucky and Tennessee, showing the "ties" that Muncie has with certain communities in the South. Figure 4 outlines a hypothesized process through which minority group migrants may assimilate into the greater urban population. A class project could test the validity of this "model" in the class' own city.

GEOGRAPHIC FAMILY TREE
Showing Birthplaces of Ancestors*


GREAT GRAND-MOTHER (New York)
GREAT GRAND-FATHER (New York)
GREAT GRAND-MOTHER (Penna.)
GREAT GRAND-FATHER (Penna.)
GREAT GRAND-MOTHER (Ohio)
GREAT GRAND-FATHER (Ohio)
GREAT GRAND-MOTHER (Germany)
GREAT GRAND-FATHER (Germany)
GRANDMOTHER (Rockford, Ill.)
Met in Iowa
GRANDFATHER (Magnolia, Ia.)
GRANDMOTHER (Paulina, Ia.)
Met in Iowa
GRANDFATHER (Germany)
MOTHER (Woodbine, Ia.)
Met in Washington, D.C.
FATHER (Primghar, Ia.)
ME (Washington, D.C.)

Lived in: ages 1-4, Logan, Iowa
ages 5-17, Mondamin, Iowa
age 18, Ankeny, Iowa

*Birthplaces shown in parentheses.

Figure 1

SELECTED ASPECTS OF "GEOGRAPHIC LIFE HISTORIES" FROM THE OBITUARIES OF THE ROCKFORD MORNING STAR*

AXBERG - Born July 19, 1892, in Sweden. Lived 58 years in Rockford, coming here from Sweden. Married in Freeport (Ill.) July 19, 1919.

ALEXANDER - Born April 10, 1923, in Argile, Wis. Lived 30 years in Rockford, coming here from Argyle. Married in Rockford Sept. 27, 1947.

BRADY - Born February 2, 1900 in Cherry Valley, Ill. Lived 55 years in Rockford, coming here from Beloit, Wisc. Married in Belvidere (Ill.) February 16, 1928.

COLLINS - Born June 23, 1895 in Mendon, Mo. Lived 23 years in Rockford, coming here from Decatur. Married in Decatur June 15, 1919.

CRANGLE - Born November 27, 1887 in Racine, Wisc. Married October 2, 1912.

DIX - Born February 24, 1908 in Macedonia, Mo. Lived 22 years in Rockford, coming here from Joplin, Mo. Married in Joplin, Mo. in 1942.

ENGLOF - Born August 1, 1880 in Sweden. Lived 50 years in Rockford, coming here from Monmouth, Ill. Married in Rockford May 18, 1918.

ERICKSON - BORN December 16, 1887 in Gotenburg, Sweden. Married in Chicago January 1, 1913.

HOLMES - Born November 12, 1894 in Collerville, Tenn. Lived 46 years in Rockford, coming here from Briston, N.J. Married in Ralston, Ark. June 2, 1919.

HUNTER - Born November 3, 1905 in Ken, Ill. Lived 37 years in Rockford, coming here from Amboy (Ill.). Married in Morrison, Ill. May 11, 1951.

LONG - Born May 7, 1934 in Rockford. Married in Durand (Ill.) Oct. 2, 1954.

NELSON - Born October 13, 1917 in Willowtown, Ky. Lived 18 years in Rockford, coming here from Greencastle, Ind. Married in Greencastle Nov. 21, 1936.

PAGET - Born February 11, 1891 in Rockford. Lived all her life in Rockford. Married in Rockford Oct. 15, 1912.

PALMERO - Born May 15, 1902 in Morgan City, La. Lived lifetime in Rockford. Married in Rockford.

PETERSON - Born June 11, 1885 in Galva, Ill. Lived 70 years in Rockford, coming here from Galva. Married in Rockford in 1905.

PHILLIPS - Born June 5, 1889 in South Dakota. Lived in area since 1935, coming here from South Dakota. Married in Rockford March 2, 1912.

REWERTS - Born April 5, 1907, in Germany. Lived 38 years in Rockford, coming here from Rochelle (Ill.). Married in Chicago Nov. 19, 1927.

YOUNG - Born June 7, 1897 in Sac City, Iowa. Lived 30 years in Rockford, coming here from Iowa. Married in Pocahontas, Iowa July 25, 1927.

*From the June 14, 1971 edition.

Figure 2

S-3-360

MIGRATION FIELD OF MUNCIE, INDIANA
1955-1960
(by State Economic Areas)

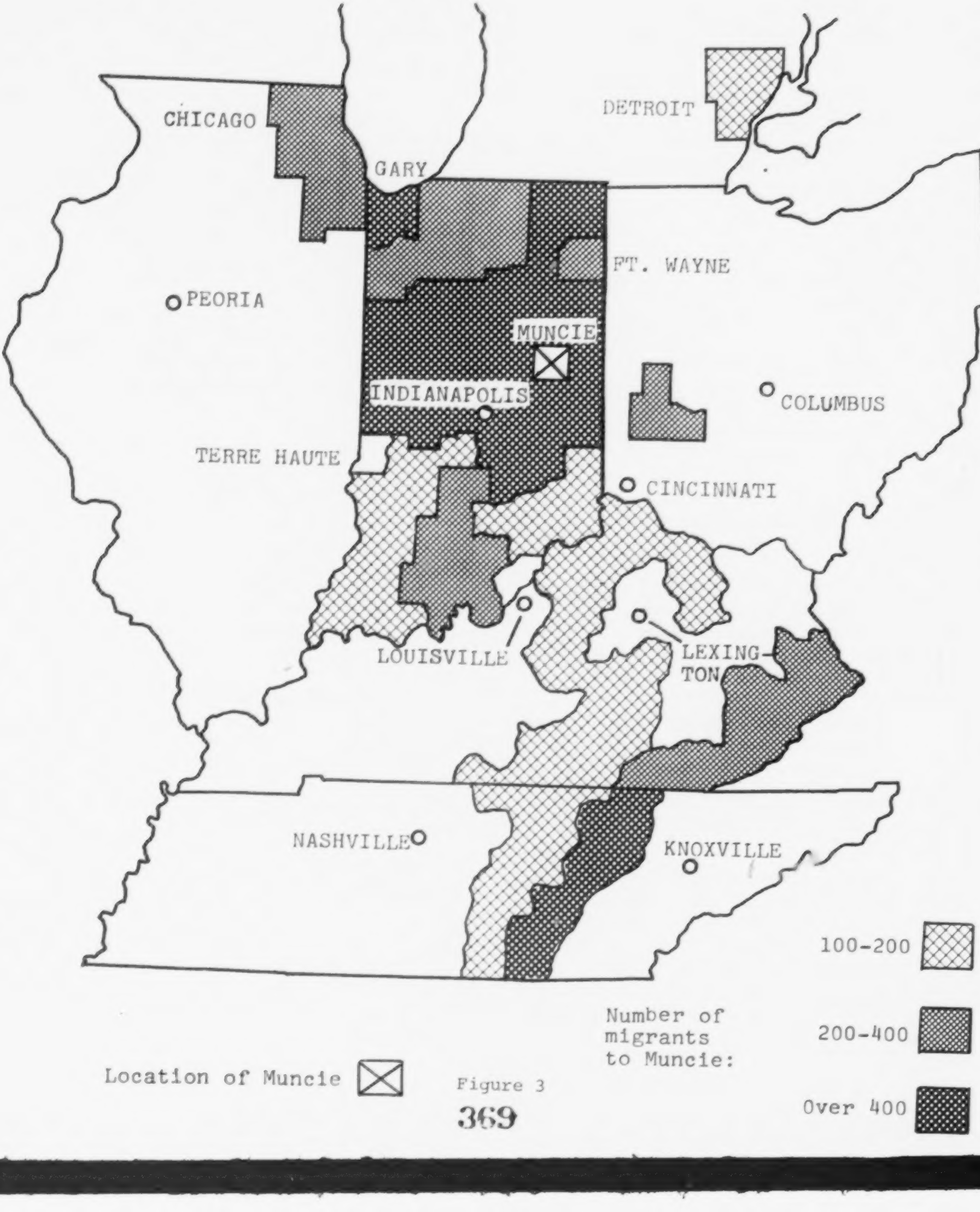

CHICAGO
DETROIT
GARY
FT. WAYNE
PEORIA
MUNCIE
INDIANAPOLIS
COLUMBUS
TERRE HAUTE
CINCINNATI
LOUISVILLE
LEXINGTON
NASHVILLE
KNOXVILLE
Number of migrants to Muncie:
100-200
200-400
Over 400
Location of Muncie

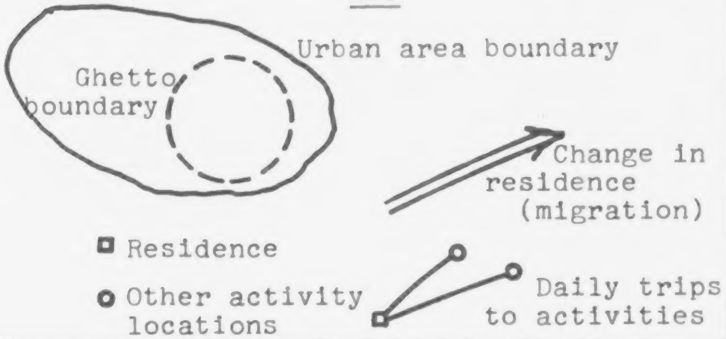
Figure 3

HYPOTHETICAL SPATIAL ASSIMILATION MODEL

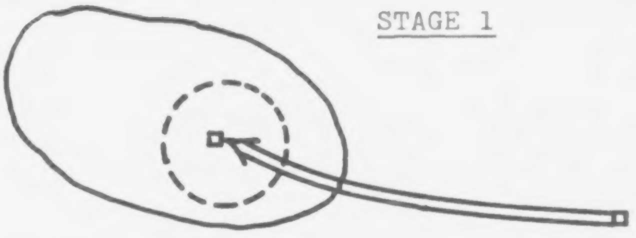
Stages Represent Increasing Levels of
Assimilation by Minority Persons into
the Greater Urban Population

Figure 4

KEY

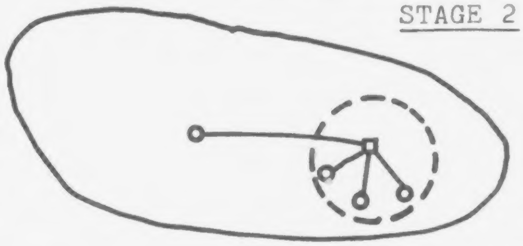

Urban area boundary
Ghetto boundary
Change in residence (migration)
□ Residence
○ Other activity locations
Daily trips to activities

STAGE 1



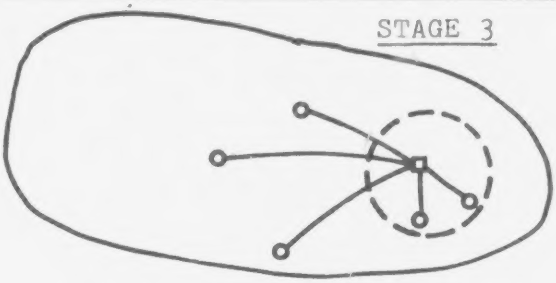
Migration from distant location to the Ghetto.

STAGE 2



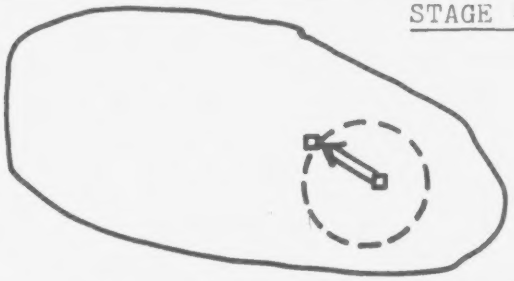
Work found outside of Ghetto, other activities within Ghetto.

STAGE 3



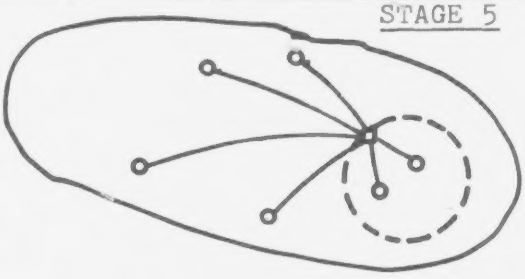
Additional activities established outside of Ghetto.

STAGE 4



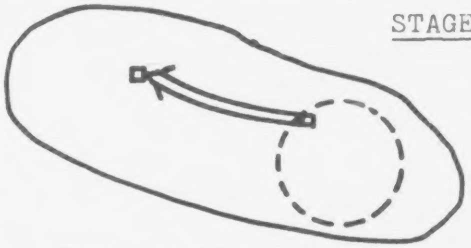
Move residence to the fringe of the Ghetto.

STAGE 5



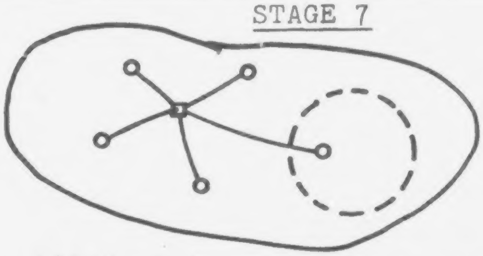
Most activities outside of Ghetto.

STAGE 6



Move residence outside of Ghetto

STAGE 7



Little interaction with Ghetto.

S-4-362

ISSUE: Socialization: Frontiers, Melting Pots, and Other Myths

TOPIC: Social Conflict and Resolution: The Quest for Identity with Dignity.

SESSION TITLE: "Chaos and Community: A Study of a Social Issue Involving City and Suburb."

DESCRIPTOR: Population growth and social mobility have contributed to the creation of an urban-suburban dichotomy. The financially beleaguered city, confronted with and array of perplexing economic, social, and political problems, is looking to its more affluent suburbs for assistance. However, these communities are frequently populated by first generation suburbanities. Having "escaped" the urban environment, many of these people have no desire to become involved in situations which may pose a threat to their newly acquired life style. This session will involve participants in a simulation which presents a hypotheticlal situation in a real setting and challenges participants to reach a decision regarding the issue of constructing low-income housing units within a suburban community.

DISCUSSION LEADER: Michael A. Radz, Vice Principal for Instruction, Herbert W. Schroeder High School, Webster, New York.

"Chaos or Community: A Study of a Social Issue Involving City and Suburb"

Rationale: Urban sprawl has dichotomized the relationship between the city and suburb. The local media daily expose the student to the many social, economic, and political problems resulting from the inevitable contact between the two. The social studies classroom provides a vehicle for the analysis of significant public issues within the community.

Objectives: At the conclusion of this lesson the student should be able to: 1) identify specific problems resulting from the relationship between city and suburb; 2) describe the position and the reason for that position that would be held by various interest groups seeking to influence the determination of a specific policy; 3) relate the question of suburban land use to a social problem--specifically the construction of a low-income housing project.

Teaching Strategies: This is a simulation exercise designed to actively involve students in a learning experience which treats a problem. The exercise is open-ended--there are no right or wrong answers. The simulation is followed by a debriefing session which allows students to discuss their experiences and to relate the simulation to actual situations. The teacher serves as a facilitator and does little more than organize the activity and initiate the debriefing.

Statement of Problem: The Town Council of Webster must decice if a parcel of land should be re-zoned to permit the construction of low-income housing project.

Interest Groups Involved: 1) Xerox Corporation; 2) FIGHT Organization; 3) Webster Human Relations Commission; 4) SEW, an environmentalist group; 5) SOHO, an ad hoc citizen's committee; 6) the School District; 7) Rochester City government; 8) Urban Development Corporation; and 9) the Webster Town Council.

Each group is composed of three students, one of whom is to be selected as the spokesman. The Town Council consists of seven members. The groups will be provided with materials which are to be used in developing a three-minute oral presentation to be delivered at a public hearing before the Town Council.

Sequence:
1) Students are assigned to read background information and to study the maps.
2) Individuals are assigned to groups.
3) Groups are advised that they are to study the data provided and to develop a three-minute statement of their positions. The directions should emphasize the importance of playing the assigned role.
4) Allow 15 minutes for the groups to prepare their cases.

5) the Town Council calls the public hearing to order. The arguments are presented. A short question and answer session follows each presentation.
6) The Town Council deliberates and votes.
7) The debriefing session should focus both on the problem and on the simulation itself as an instructional device.

BACKGROUND INFORMATION: All the information--narrative, tables, graphs, and maps--are taken from The Master Plan for the Town of Webster, New York prepared by EBS Management Consultants, Incorporated (July, 1968).

Webster is a suburban community in Monroe County. It lies approximately eight mile to the east of the county seat, the City of Rochester. The Village of Webster is located in the southeastern section of the Town of Webster and is contained by the Town.

EXISTING LAND USE: There are some 34 square miles in the Town, including slightly more than two square miles in the Village. Urban development in the Town is predominantly single family residential, and concentrated in West Webster and the Village.

The pattern of development also includes limited commercial land use which is concentrated in the Village and along Ridge Road, between Empire Boulevard and the Village; and industrial uses which are dominated by the extensive facilities of Xerox in the northeast section of the Village. The larger agricultural tracts are situated in the eastern section of the Town, and many fruit orchards are in scattered locations, primarily north of Ridge Road.

The present pattern of land use is the result of historical growth and regional influences. The Town began as an agricultural community composed of large farms and was served by the Village for its principal commercial and cultural needs. Linear development then occurred primarily along Ridge Road, Bay Road, and Lake Road. Development since World War II has been suburban in character caused by the decentralization of Rochester. More recently, the extensive residential developments have shifted to the central and northeastern sections of the Town and the Xerox Corporation has located its major plant in the northeastern section of the Village.

ECONOMIC CHARACTERISTICS: The economic basis for the existence of the Town is that it is an integral part of the Rochester region. The principal focus of economic activity is the City of Rochester. Rochester has evolved from an agricultural service center to a place with a very strong economy based on manufacturing. There are no heavy industries in the region. The principal manufacturing employers are concentrated in Rochester,and a few major industries have relocated to or have been established in the outlying suburbs. One of the most important of these, the Xerox Corporation, has recently located in the Village in Webster. Most of the developed Xerox properties are located in the Village but the bulk of the undeveloped Xerox lands extend into the Town.

Principal commercial developments are also centered in Rochester, although major suburban shopping centers have been developed outside the City. Most of the commercial establishments in the town of Webster are in scale and are located in the Village.

Agricultural activities are still an important, but declining, factor in the economy of Monroe County. Although the town of Webster has been an important producer of agricultural products and is the County leader for some fruits, this activity has been rapidly decreasing in the past few decades.

In summary, the Town has a strong economic base with very little unemployment. More than 90 per cent of its workforce is in the skilled, managerial, professional or technical categories.

POPULATION CHARACTERISTICS: Monroe County doubled its population between 1920 and 1965 to approximately 600,000 persons. More recently, the population of Rochester has been decreasing slightly, but it seems to be stabilizing around 300,000 persons. Since 1920, the Rochester proportion of County population has decreased from 84% to 46%, reflecting the suburban population growth.

The town of Webster has also gained greatly in population since 1920. During this period, its population multiplied by six times while that of the Village multiplied three times. The greatest growth occurred in the period 1950-59 when the Town population increased by 150 per cent. In 1964, the population of the Town was about 19,000 persons, of whom some 4,000 were in the Village. The age composition of the Webster population includes many young persons. More than 30 per cent are under 14 years of age and a proportionately great number are in the 15-34 year old group. There is, however, relatively large number of older persons, primarily women.

ECONOMIC GROWTH FORECASTS: For the Rochester region, it is estimated that by 1980 the labor force will increase by one third. Approximately 40 per cent of the labor force will continue to be occupied in manufacturing. It is expected that there will be further suburbanization of major retail activities.

Economic activity in the town of Webster is expected to be increasingly dominated by the Xerox Corporation operations. Trading activities, especially retailing, are expected to increase. Most of the present agricultural lands will be converted to urban uses.

POPULATION GROWTH POTENTIALS: Population forecasts estimate that there will be between 800,000 and 900,000 persons in Monroe County by 1980 and between 1 million and 1.4 million by the year 2000.

By 1980, Webster's population is projected to be about 36,000, and 1989, it is estimated that it will almost triple to about 56,000 persons.

S-4-366

ROLE PROFILES

Xerox Corporation: With its main production center located in the Village, it is the largest single employer in the community, providing jobs for approximately 15,000. Future plans call for continued expansion of facilities in Webster. Goals: to insure an adequate supply of skilled labor; and to facilitate its policy of equal employment opportunities and further develop its job training programs.

FIGHT Organization: An organization within the black community of Rochester, this gorup has been extremely aggressive in promoting economic, political, and social activism in the Rochester-Monroe County area. Goals: to relieve pressures on inner-city housing; and to promote economic equality for the black community.

Webster Human Relations Commission: A newly created group, the Commission has been active in such areas as open housing, treatment of minority groups in the school curriculum, and busing programs between the City and suburb. Goal: to support programs designed to promote a balanced socio-economic community.

SEW (Save the Environment of Webster): The community has reached optimum size. Further growth would destroy the beauty and balance of Webster. Goal: to prevent expansion and maintain the present balance agricultural-industral-residential land use.

SOHO (Society of Home Owners): A hastily formed committee of citizens who are concerned about the impact of the project upon their property values and upon the tax structure. In the past, members of this group have led the fight against the local school budget. Goals: to maintain property values; to keep taxes down; and to maintain the community status quo.

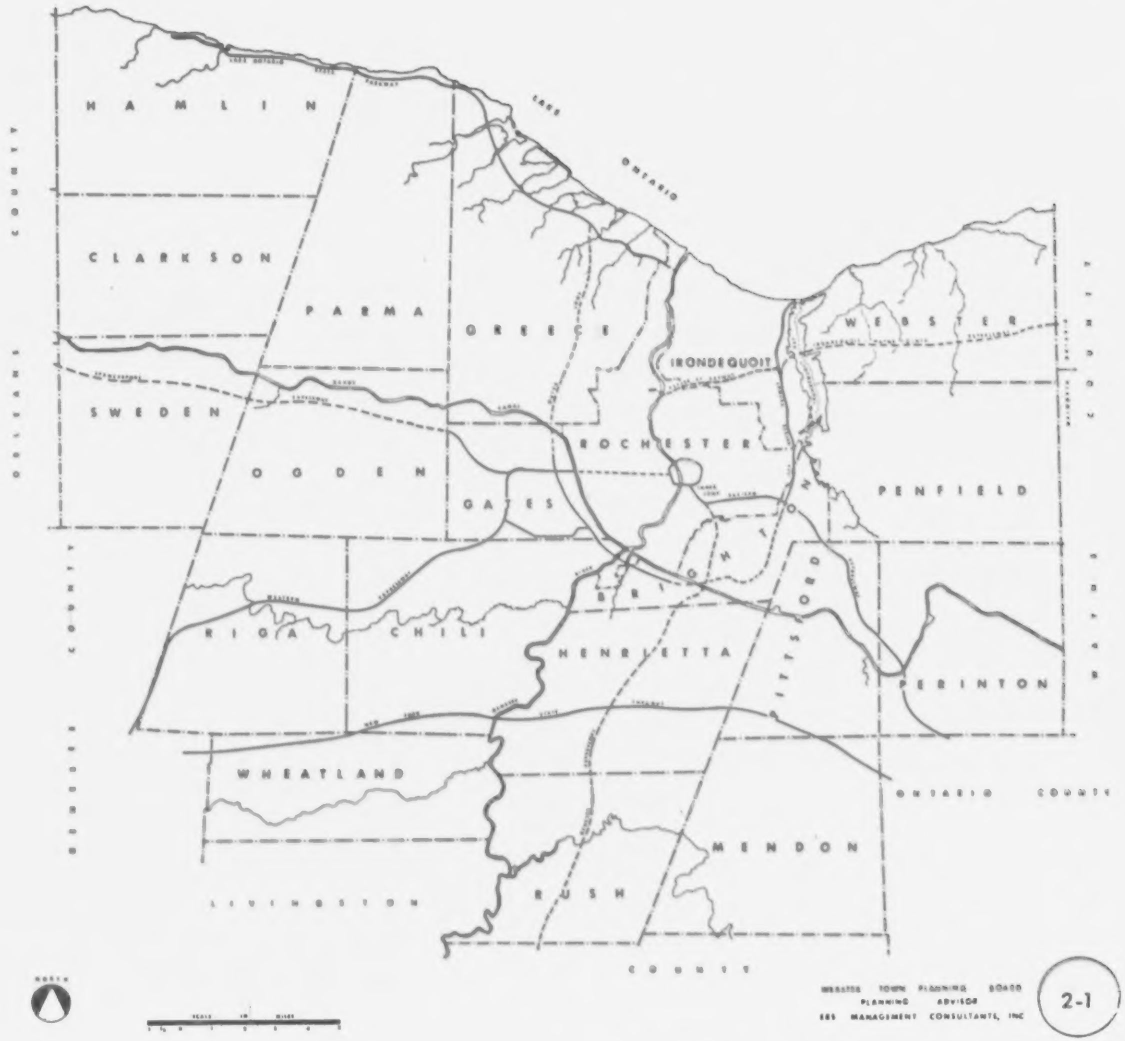
Webster Central School District: The District has grown rapidly in the past 10 years with accompanying increases in property taxes. Goal: to offer a quality education program for all students in the community in the face of increased costs.

Rochester City Government: The City has a City Manager and a mayor. Since the riots in the inner city in 1964, the government has been continually seeking answers to the problems of housing, education, and job opportunities. Beset with financial problems, efforts have been made to find ways to cooperate with the towns in seeking solutions to mutual problems. Goal: to move toward a metropolitan approach to the solution of problems.

Webster Town Council: The Council is composed of a Supervisor and four councilmen, all elected. Goal: to plan community growth.

MONROE COUNTY, N.Y.

LOCATION MAP


LAKE ONTARIO
HAMLIN
CLARKSON
PARMA
GREECE
IRONDEQUOIT
WEBSTER
SWEDEN
OGDEN
GATES
ROCHESTER
PENFIELD
BRIGHTON
PITTSFORD
PERINTON
RIGA
CHILI
HENRIETTA
WHEATLAND
RUSH
MENDON
ORLEANS COUNTY
GENESEE COUNTY
LIVINGSTON COUNTY
ONTARIO COUNTY
WAYNE COUNTY
NORTH
SCALE IN MILES

THE PREPARATION OF THIS EXHIBIT WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE PLANNING ASSISTANCE PROGRAM FOR THE BUREAU OF COMMUNITY PLANNING, NEW YORK STATE OFFICE OF PLANNING COORDINATION. IT WAS FINANCED IN PART BY THE STATE OF NEW YORK AND THE TOWN OF WEBSTER. [illegible]

WEBSTER TOWN PLANNING BOARD
PLANNING ADVISOR
EBS MANAGEMENT CONSULTANTS, INC

2-1

S-4-368

TABLE I

Percentage of land, in Town and Village of Webster - 1965

Uses	Town	Village	Percent of Total
Residential			
1 Family	19.9 (.1989)	20.4	19.9
2-3 Family	0.2	3.3	0.5
Multifamily	0.1	3.3	0.5
Mixed Residen-Commercial	0.9	0.7	0.9
Commercial			
Retail	0.1	0.7	0.2
General	0.0	1.5	0.1
Tourist	0.0	-	0.1
Recreation	0.2	-	0.2
Automotive	0.2 (.0017)	0.4 (.0037)	0.2
Industrial	0.3	34.8	2.4
Institutional			
Public	1.1	3.3	1.3
Semi	0.4	2.6	0.5
Roadways	5.6 (05.64)	10.4 (.1037)	5.9
Agricultural	35.2	-	33.0
Open Space	3.9	0.4	3.6
Vacant	28.7	21.5 (24.2) (.2148)	28.4
Water Bodies	2.9	-	2.8

Source- Monroe County Office of Assessment and Taxation
Arthur Reed, *A Plan for the Development of the Village of Webster*, New York, 1965. Tabulation and Computation by EBSMC.

TABLE 2

RACIAL CHARACTERISTICS OF THE POPULATION IN WEBSTER AND MONROE COUNTY - 1960

		Monroe County		
Total Population	Webster	City of Rochester	All Towns	Total
White	16,406	294,383	266,937	561,320
Negro	10	23,586	598	24,184
Other Races	18	642	241	883
Born in Puerto Rico	-	1,453	40	1,493
Puerto Rican parentage	-	537	71	608

Source: U.S. Bureau of Census
Census of Population and Housing: 1960 Final Report PHC (1)-127

TABLE 3

PROJECTIONS OF HOUSING UNIT CONSTRUCTION FOR MONROE COUNTY AND WEBSTER

Town, Village	Average Yrly. No. Housing Units Added			Est. Av. Yrly. No. of Housing to be bt.	
	1955-59	1960-61	1960-64	1960-69	1970-1979
Webster Village	29	37	106	60	30
Other Webster Town	154	148	176	230	250
Total Webster	183	185	282	290	280
Total Monroe County Towns	3,132	3,270	4,071	3,950	4,375

Source: Monroe County Planning Council
Population Study 1960-1980, 1962
Monroe County Planning Council, Fifth Annual Building Population Survey, 1965
Computations by EBSMCI

ZONING ORDINANCES

_ Only apartment houses which are designed for not more than 36 separate dwelling units shall be permitted and in each apartment building not more than 50 per cent therein shall be of the two-or-more bedroom type.

- Residential One Family Dwelling Requirements:
    Minimum Width - 100 feet
    Maximum Building Coverage - 30 per cent
    Minimum Lot Area - 18,000 square feet
    Maximum Number of Stories - 2 (no higher than 25 ft. total)

- Commercial Building Requirements:
    Minimum Width - 200 feet
    Maximum Building Coverage - 35 per cent
    Minimum Lot Area - 4 acres
    Maximum Number of Stories - No higher than 50 feet total

- Neighborhood Commercial
    Minimum Width - 150 feet
    Maximum Building Coverage - 35 per cent
    Minimum Lot Area - 2 acres
    Maximum Number of Stories - No higher than 25 feet

- Community Business
    Minimum Width - 400 feet
    Maximum Building Coverage - 35 per cent
    Minimum Lot Area - 10 acres
    Maximum Number of Stories - No higher than 100 feet

Issue:	Socialization: Frontiers, Melting Pots, and Other Myths.
Topic:	Social Conflict and Resolution: The Quest for Identity with Dignity.
Title:	"Campus Unrest: The Events in France and the U.S.A. 1968."
Descriptor:	In the absence of international conspiracies, far-removed student revolts have demonstrated striking similarities. By focusing on Columbia University and the Sorbonne, these processes will be presented through a comparative approach. The opening phase of the presentation will lead participants through selected causes of disorders, then proceed into the confrontation and results. After these preliminaries, the responses of participants will be directed toward in-depth development of the involved issues.
Discussion Leader:	Gordon L. Teffeteller, Valdosta State College, Valdosta, Georgia.

* * * * *

These materials develop perspectives related to the student "strikes" of 1968. Two examples of the student revolution are examined, Columbia University in New York City and the Sorbonne in Paris. This study illustrates the unique as well as typical characteristics associated with electrifying "revolutions" in two of the world's great universities.

The method used in arranging the materials is comparative. The discussion leader will briefly refer to the commonality of student discontent throughout the world--

disenchantment with elements of modern society
the need for more individual freedom
undesirable university conditions
social issues such as war and racism

In the presentation of the first section, "Causes and Pre-Conditions," both Columbia and the Sorbonne revealed their administrative inability to deal with a threatened revolution. Both student bodies found a concrete geographic and ideological issue in the Indo-Chinese war. Moreover, the issue of overcrowding was crucial. In New York, Columbia had begun expansion into Morningside Park, activating the opposition of civil rights groups in Harlem. In Paris, the March 22 Movement at Nanterre, a remote suburban university unit, spread to the Sorbonne in the Latin Quarter and then exploded across France in the form of a general strike.

The "Confrontation" occurred as students at both universities began extensive occupation of university buildings. The heady phenomenon of seizing university properties was ended shortly by police "busts".

S-4-372

The section on "Results" summarizes student gains. At Columbia, the construction of the Morningside Gym ceased, and administrative restructuring began. In Paris, where student "participation" was implemented, the government began expansion of university units in the suburbs. Symbolically, the DeGaulle government, wary of the cobblestones regularly pulled up and thrown at police, asphalted the streets in the Sorbonne region. It also announced the beginning of reforms.

CAUSES AND PRE-CONDITIONS (continued)

3. Overcrowding

COLUMBIA
UNIVERSITY

Columbia students soon focused on the symbolic discrimination implicit in the proposed gymnasium as the University began expansion into Morningside Park bordering the ghettos of Harlem.

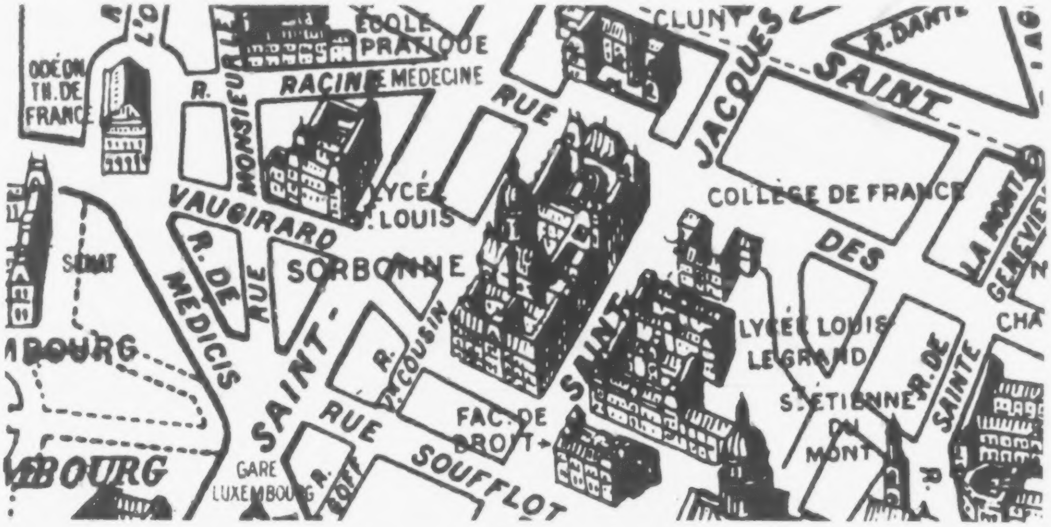
The Gym

The Site

The Region of Manhattan
Courtesy New York Conv. Bureau

3. Overcrowding

THE
SORBONNE

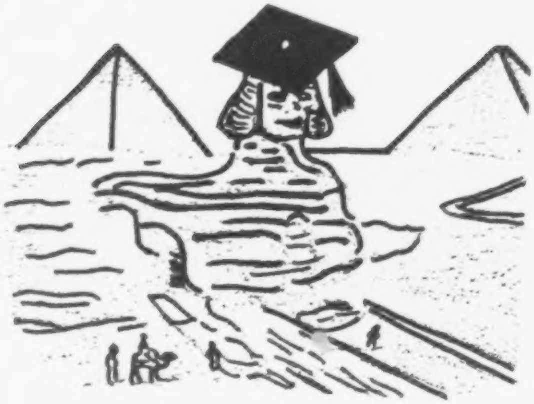

ÉCOLE PRATIQUE
CLUNY
R. DANTE
ODÉON TH. DE FRANCE
R. RACINE
MEDECINE
RUE
JACQUES
SAINT
MONSIEUR
VAUGIRARD
LYCÉE ST. LOUIS
COLLÈGE DE FRANCE
DES
SORBONNE
R. DE MEDICIS
RUE
SÉNAT
R. COUSIN
SAINT
LYCÉE LOUIS LE GRAND
ST. ETIENNE DU MONT
R. DE SAINTE
FAC. DE DROIT
SAINT
RUE SOUFFLOT
GARE LUXEMBOURG

The Administration of the Sorbonne routinely over-enrolled most classes. Thus, 800 students often enrolled for lecture courses offered in halls which seated only 300. In all, 160,000 students were controlled by the Rector of the Sorbonne. Yet, the centralized system seemed invulnerable against real student protest.

CAUSES AND PRE-CONDITIONS

Columbia University

1. Inadequate Administrative Techniques



2. Militarism and the Vietnam War

Columbia students opposed campus military recruitment and connection with IDA .

HANOI
NORTH VIET NAM
LUANG PRABANG
LAOS
CAMBODIA
PHNOM PENH
SOUTH VIET NAM
SAIGON

The Sorbonne and Nanterre

1. Outdated Administrative System

"With its rigid heirarchical organization, the University remains a durable Napoleonic creation."
---Robert Holtman, 1967

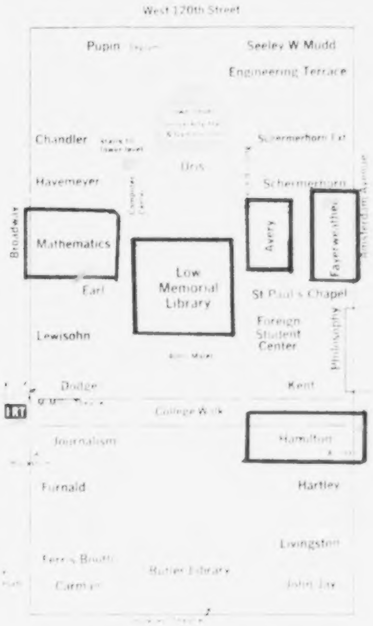
"Today it is very difficult to revolt."
---Georges Pompidou, March 22,1968

2. Militarism and the Vietnam War

French students uniformly oppose American involvement in Vietnam on the heels of the French defeat in 1954.

CONFRONTATION: OCCUPATION OF BUILDINGS

COLUMBIA UNIVERSITY


West 120th Street
Pupin
Seeley W Mudd
Engineering Terrace
Chandler
Schermerhorn Ext
Uris
Havemeyer
Schermerhorn
Broadway
Mathematics
Low Memorial Library
Avery
Fayerweather
Amsterdam Avenue
Earl
St Paul's Chapel
Lewisohn
Foreign Student Center
Philosophy
Dodge
Kent
IRT
College Walk
Hamilton
Journalism
Furnald
Hartley
Livingston
Ferris Booth
Butler Library
Carman
John Jay

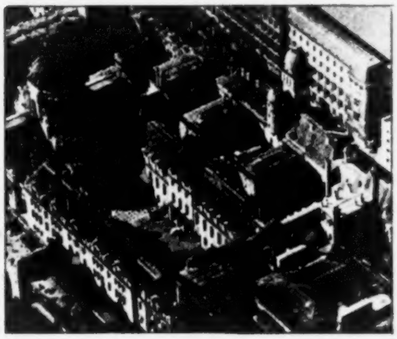
The Columbia Campus

Free Huey Now
War Kills
LIBERATION

Harry Crosby/Photophile, San Diego, from SOCIETY TODAY (Del Mar, Calif.: CRM Books), © 1971, CRM, Inc.

The Students' Afro-American Society seized Hamilton Hall while the Students for a Democratic Society (and others) occupied Low Library, Avery, Fayerweather, and Mathematics Halls. The occupation continued April 23-30, 1968.

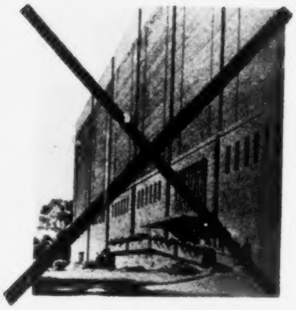
THE SORBONNE



The Sorbonne was occupied for five weeks beginning May 13, 1968. Meanwhile, workers in France joined the "strike" and virtually brought the country to a halt for about two weeks.

RESULTS

COLUMBIA
UNIVERSITY



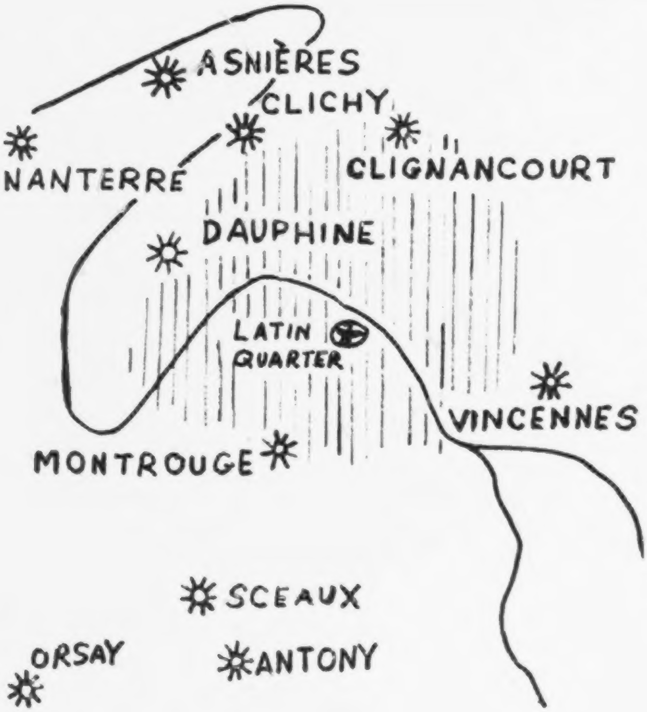
Administrative Reorganization

"Columbia University has become one of the first major American universities with a central policy-making body that includes students, alumni and staff, as well as faculty and administration."

---News Release,July,1969

Construction on the Morningside Gym was halted permanently . Expansion of the existing gym began.

THE
SORBONNE


ASNIÈRES
CLICHY
NANTERRE
CLIGNANCOURT
DAUPHINE
LATIN QUARTER
VINCENNES
MONTROUGE
SCEAUX
ORSAY
ANTONY

The French government began a program of reform featuring student participation and more autonomy for facultés throughout France , including the Sorbonne and the surburban university units around Paris. The sketch at left indicates the implementation of the university expansion in suburbs and sections away from the volatile Latin Quarter.

S-4-377

Issue:	Socialization: Frontiers, Melting Pots, and Other Myths.
Topic:	Social Conflict and Resolution: The Quest for Identity with Dignity.
Title:	"Quandary: Metropolitan Planning for Land Use."
Descriptor:	Quandary encourages examination of problems arising from planning land use. Quandary forms a simulation activity with students assuming the role of adult citizens facing a complex social and economic question of community economic growth conflicting with the desire for maintaining a healthy residential environment.
Discussion Leader:	Phillip J. Nelson, Instructor in Social Studies, Malcolm Price Laboratory School, University of Northern Iowa, Cedar Falls, Iowa.

* * * * *

QUANDARY

A Simulation Activity for Secondary Students.
Instructional Strategies

Quandary forms a simulation activity with students assuming the role of adult citizens facing the question of whether to allow construction of a 600 unit apartment house complex next to an exclusive residential neighborhood. It requires students to sense the attitudes and concerns of a suburban community. It focuses on the question of economic growth conflicting with the desire for maintaining a healthy residential environment.

Participants receive role cards and pertinent background about Lincoln Falls and Housing Incorporated, the firm planning the Lincoln Park apartments.

Those not in the city council divide into tentative interest groups; those favoring the building project, those opposed to it, and those with no opinion at the present time. The groups prepare testimony and participate in a city council meeting to allow interest groups to voice their opinions. The hearing is presided over by one council member chosen by the entire council. Conclude the simulation activity by having the city council announce its decision regarding the granting of the building permit.

The teacher should follow up this activity with a post-game discussion of activities and occurrences taking place during the role-playing phase. This could include post-game discussion questions such as:

What factors did the council members take into consideration in making their decision?

What conclusions can be made regarding the people supporting and opposing the apartment house project?

What compromises took place between the interest groups for the benefit of the whole community?

Financial Statistics

School Costs:

Per pupil costs (1969-70 school year) were $811.93. Estimated 1970-71 increase of 7% gives an expenditure per pupil of $868.77. With the percentage of per pupil expenditure defrayed by state and federal funds being 30.3%, current expenditure per pupil borne as city expense is $605.53.

Probable School-Age Population: LINCOLN PLAZA

Based on national average for such developments of .4 per unit (Assumption seems valid when viewed as equivalent to 1 child per two-bedroom unit plus 1 child for every fifth one-bedroom unit.) is 250. children.

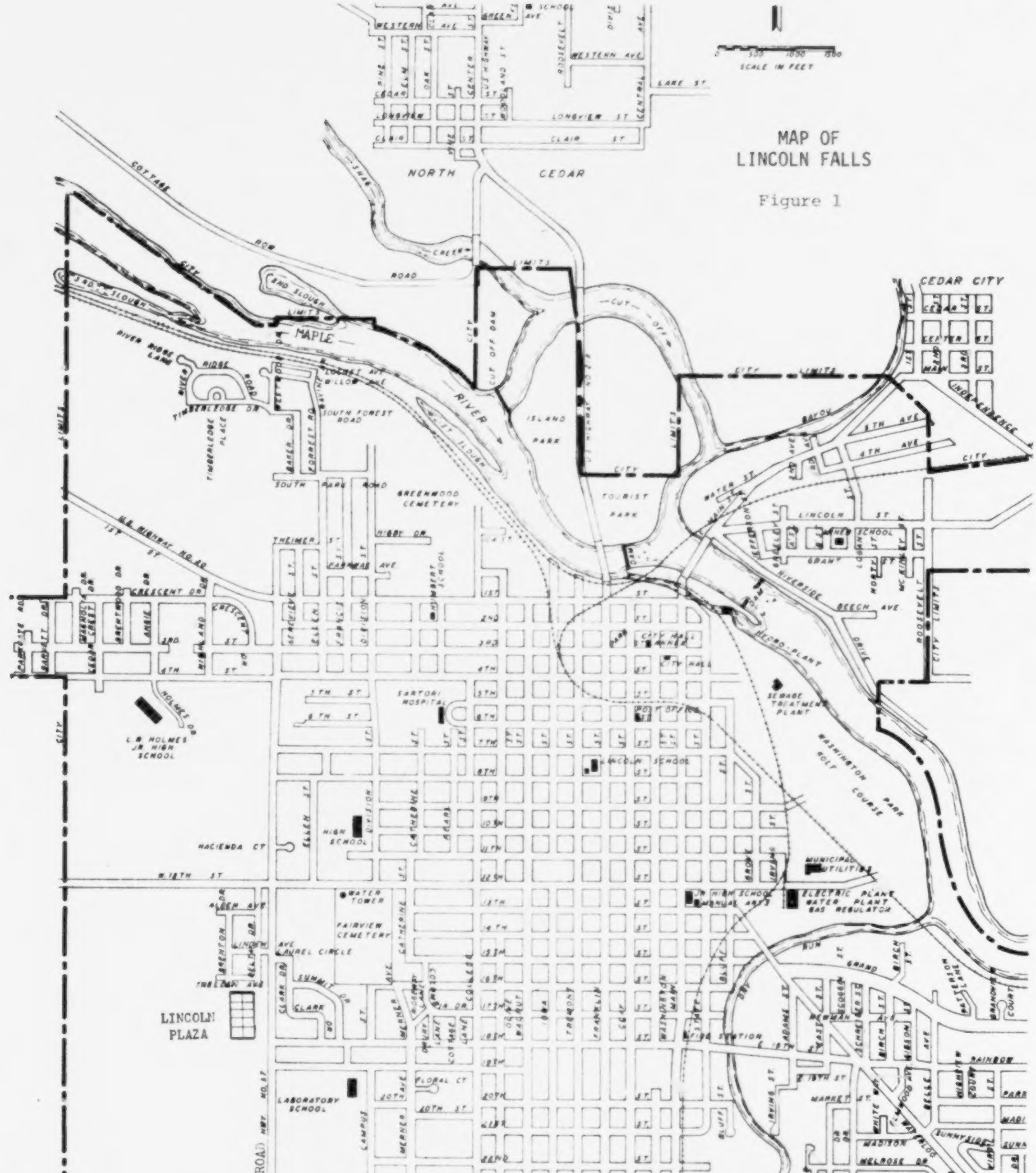
Total Cost for Education would be $151,382.50, based on a per pupil cost of $605.53 for 250 children.

Extrapolated Total Burden:

(Assumptions: Total burden may be viewed as mirror image of percentage of tax revenues diverted to specified agencies. Anticipated educational costs thus provide base for extrapolation, using education as 56.2% of total municipal burden.) $269,363.88.

Anticipated Tax Revenue:

Spring Valley, an existing apartment complex, pays 54,011 taxes on an assessed value of $1,504,000. Applying the same ratio to an anticipated assessment of 4,265,000 for Lincoln Park produces an anticipated $153,175 in revenue, therefore an annual cost of $116,189.



MAP OF
LINCOLN FALLS

Figure 1

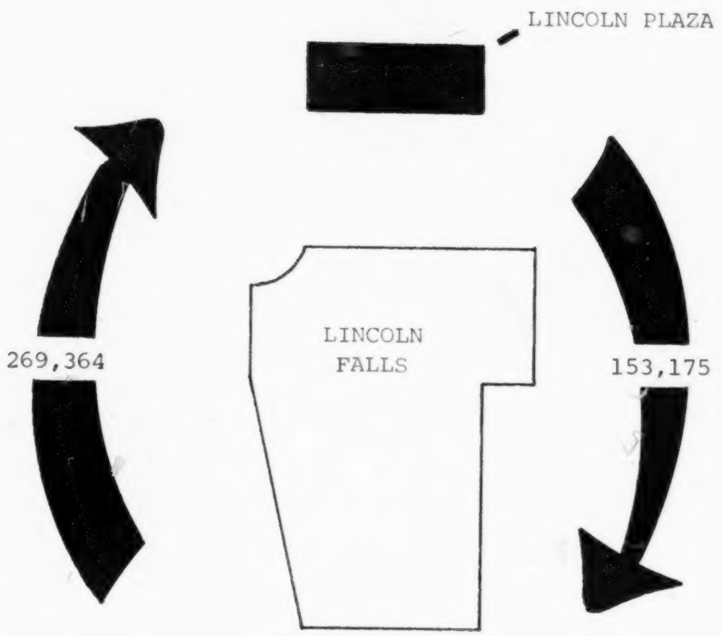
SCALE IN FEET
0 500 1000 1500
NORTH CEDAR
CEDAR CITY
WESTERN AVE
GREEN AVE
SCHOOL
LONGVIEW ST
CLAIR ST
LAKE ST
COTTAGE ROW ROAD
CITY LIMITS
MAPLE
RIVER
CEDAR
CUT OFF DAM
ISLAND PARK
TOURIST PARK
CUT OFF
RIVER RIDGE
TIMBERLEDGE DR
TIMBERLEDGE PLACE
SOUTH FOREST ROAD
SOUTH PARK ROAD
GREENWOOD CEMETERY
U.S. HIGHWAY NO. 20
CRESCENT DR
BAYOU
INDEPENDENCE
LINCOLN ST
GRANT
RIVERSIDE
BEECH AVE
DRIVE
ROOSEVELT
HYDRO PLANT
CITY HALL
SEWAGE TREATMENT PLANT
WASHINGTON PARK GOLF COURSE
SARTORI HOSPITAL
POST OFFICE
LINCOLN SCHOOL
L.R. HOLMES JR. HIGH SCHOOL
HOLMES DR
HIGH SCHOOL
HACIENDA CT
W. 12TH ST
MUNICIPAL UTILITIES
JR. HIGH SCHOOL MANUAL ARTS
ELECTRIC PLANT WATER PLANT GAS REGULATOR
WATER TOWER
FAIRVIEW CEMETERY
LAUREL CIRCLE
LINCOLN PLAZA
FIRE STATION
LABORATORY SCHOOL
FLORAL CT
LINCOLN ROAD HWY NO. 57
RAY EDWARDS MUNICIPAL POOL
SEERLEY BLVD
STATE UNIVERSITY
J.H. PEET JR. HIGH SCHOOL
VALLEY PARK SCHOOL
U.S. HIGHWAY NO. 218
W. 27TH ST

PROJECTED LOCAL BURDEN

LINCOLN PLAZA 1970-1971

City Schools	Other Services
$151,382.50	$117,981.38

$269,363.88


LINCOLN PLAZA
LINCOLN FALLS
269,364
153,175

ANNUAL COST:

$116,189

Figure 2

Issue:	Political Power: The Games People Play.
Topic:	Environmental Quality: Management of Preferences.
Title:	"Blue Lake: To Dump or Not to Dump."
Descriptor:	Blue Lake is a simulation exercise generated around controversy involved in dumping mine and mill tailings into a large fresh water lake. It forces the students into a variety of research activities as well as "opposing view" statement analyses.
Discussion Leader:	Richard Bernard, Roosevelt Junior High School, Anoka, Minnesota.

* * * * *

"BLUE LAKE: TO DUMP OR NOT TO DUMP"

The Blue Lake simulation gives secondary students an opportunity to manipulate the questions and concepts of geography in examining the use of actual elements of the environment. Basic concepts to be used are distance, direction, location attributes, site and situation, circulation system, marginality, nodality, hierarchy, boundaries, periodicity, region and perception. The students will use these concepts in answering geography's peculiar questions "where" and "why there, rather than somewhere else?". In this case, the general question is localized as to where and why should tailings be dumped.

The simulation consists of a hearing before the Pollution Control Agency and the events that lead up to the hearing. It begins with a briefing session during which the concepts to be used in the game are discussed and the goals of the simulation are outlined. Following this, students are placed in groups, see a slide presentation containing the background of the problem, and then elect members of the P.C.A. from their numbers. In round one, the students assume individual identities and prepare their position on those of the lake. In preparing positions, they are guided by information on their role cards and their grasp of geography concepts. This step is followed by lobbying, during which, groups try to persuade other groups of the validity of their perceptions. Their arguments must be based in geography. For example, one group may argue that the event should be located in one circulation system and the location must be considered paramount. Another locates the event in the circulation pattern of herring and commercial fishing and contends that location is paramount. The students will argue with each other based on these perceptions.

The lobbying phase is followed by a call for a hearing on the issue. The group then reassesses their position and have another chance to lobby. The third round consists of the formal hearing during which each group presents formal arguments to the P.C.A. Members of the P.C.A. probe the argument, and after hearing all testimonies, reach a conclusion. Their decision is then evaluated by the news commentators who have monitored the process from the beginning.

A debriefing concludes the simulation. Students and teachers evaluate their activities in terms of how extensively geographical concepts were used in assessing environmental problems. They must evaluate the importance of arguments based on these concepts in total decision making. They must see how people can differ on definitions of resources and how these differences can lead to bitter controversy.

OBJECT OF THE SIMULATION

The object of this simulation is to determine whether or not Reserve Mining should continue its current practice of dumping taconite tailings into the lake. Essentially students are to determine the answer to a where question i.e. where to dump. The final decision is in the hands of the Pollution Control Agency (PCA). Each group must attempt to convince the PCA that it has the only correct answer to the where question. The reasons supporting each answer will vary, as in real life. In addition there is no "right answer." The answer is correct only in terms of the criteria set up for judging answers. The simulation ends when the PCA reaches its conclusion and the news reporters criticize that decision.

Goals and objectives

1. Give the student an opportunity to ask and attempt to answer the basic question of geography (where).

2. Give the student a sense of the relevance of the geographic question.

3. Provide the context for the student to manipulate the concepts of geography in a complex situation.
    a. Use concepts of distance and direction in both the physical and socio-economic space, especially the concept of distance as it affects public awareness of the problems in the environment.
    b. Use the locational attributes: site and situation.
    c. Use the concept of circulation systems.
    d. Practice studying circulation systems in terms of nodality, marginality, hierarchy, distance, direction boundary, energy consumption, periodization.
    e. Use the regional concept in defining the areas of influence and of pollution.

4. Give the student the realization that his view or perception of an element in the environment may not only differ but be exactly opposite that of another individual or group.

5. Converse and discuss the environment with a person with a different perception.

MECHANICS

Time: Approximately ten (10) class periods.

Sequence: Simulation should come at the end of upper midwest unit. It is intended as an evaluation project. To do well in the simulation students must have mastered the concepts in the earlier units.

Materials Needed: Simulation kit, and background library.

Space Requirements: One classroom with movable chairs.

Number of Students: Variable number between 25 and 35 (in small classes reduce the number of fishermen or plant workers).

FLOW OF THE GAME

The overall movement of the game can best be seen in the accompanying chart.

PREGAME BRIEFING

1) Review concepts of geography. 2) Discuss the place of simulations in the classroom. Stress the importance of assuming a personality other than one's own. Be sure to tell them they will be evaluated by you and by themselves but there will be no test. 3) Assign students to group roles. Allow some freedom of choice but tactfully insure that students get roles they can fulfill. Use the following guidelines.

NEWSPEOPLE. These roles must be assigned to the class' brightest and most articulate students. It is the most demanding role because it depends upon their initiative. MECCA (The citizens conservation group - plaintiff). Some of the class' most aggressive personalities should be assigned to this group. The role calls for militancy on behalf of good causes. RESERVE MINING COMPANY (The defendant). These roles call for bright stable persons. The class' most technologically inclined students should be assigned. LOCAL BUSINESS GROUP. Not a demanding role, average to bright students. WORKERS IN THE MINING INDUSTRY. Not a demanding role for average students. COMMERCIAL FISHERMEN. Not a demanding role. Boys who like outdoor sports should be assigned. NORTHERN CONCERNED CITIZENS. These roles should be filled by class "personalities", they call for showmanship.

4) After group set up, pass out group role cards. 5) After groups have read their role cards they should select a spokesman for the group. 6) After they have read the group role cards each group should nominate one of its members for the PCA. 7) Hold an election for the PCA. After members are elected they no longer meet with their special interest groups.

Round One--Setting the Stage - One Day

8) Show the slide presentation of the problems surrounding the use of Blue Lake to the entire class (slides and script provided). 9) Divide the group into special interests groups and pass out individual role cards; each individual should have an identification card (preferably colored paper which they can pin to their clothing). 10) Groups study their roles and background information and discuss slides. MECCA prepares its appeal for a hearing on lake. PCA elects chairman and determines what information it needs to take action on the problem. Newspeople check out equipment, determine their editorial policy and set up interview schedule. Game coordinator checks out equipment to newspeople (see role card for newspeople), circulates among groups to monitor use of concepts and watch for people who do not know what to do. 11) Coordinator calls for lobbying to begin. Students move between groups and PCA. Newspeople begin to conduct interviews. Coordinator continues to help people who don't know what to do and monitors use of concepts.

Toward the end of the period game coordinator and news corps prepare a broadcast to be given at beginning of next period. Game coordinator is technical consultant only. *A News Cast must begin each day.*

Round Two - Two to Three Days

12) News broadcast. 13) MECCA presents a plea for a hearing on Blue Lake. 14) PCA meets and votes. Grants a hearing to begin on a date reached after consulting game coordinator and groups involved. 15) Groups separate. Special interest groups prepare positions. PCA decides what information it needs to have. Newspeople decide what the public needs to know and interviews people. Game coordinator circulates to monitor use of concepts and help those in need. When game coordinator thinks groups have established their positions he calls for lobbying to begin. 16) Second round of lobbying begins. PCA sets up hearing schedule. MECCA begins and is followed by Reserve. Newspeople continue interviews and reporting. Game coordinator continues to circulate.

Round Three--The Hearing - Three to Four Days

17) At the appointed time the PCA Chairman calls the hearing to order and reads the agenda, particularly the order of groups to testify. Testimony and the cross examination follows. 18) Meeting is adjourned when all the testimony has been heard. 19) PCA deliberates and reaches a verdict while remainder of groups wait patiently. 20) PCA announces its findings. 21) Newscorps criticizes the hearings and the findings of the PCA.

Round Four--Debriefing - Two Days

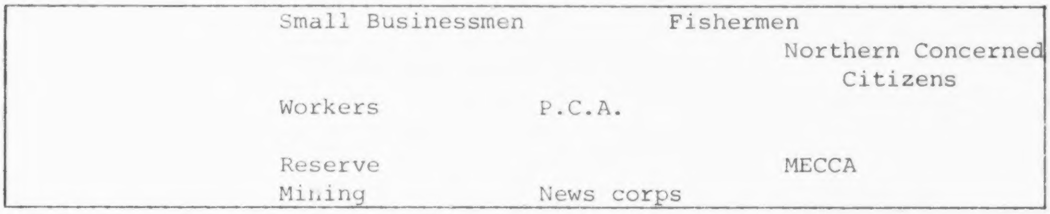
Teacher and students evaluate game. Teacher discusses their use of the concepts in deciding where Reserve should dump its tailings. Students examine their use of concepts and explain their actions and opinions to each other. Teacher should prompt student evaluation by asking questions similar to the following:

1. What is Blue Lake? (a dump, a scenic attraction, a circulation system, a part of a larger circulation system)
2. What is the relationship between Silver Bay and the range towns (part of a spatial system)?
3. Where are decisions made about activities in Silver Bay (hierarchy of cities is accompanied by a hierarchy of decision making)?
4. How far is Silver Bay from Babbitt (should be answered in terms both physical and socio-economic space: close to conservationists, far for Reserve)?
5. How does information spread through a group such as the class?
6. What distances were important in deciding to allow or not allow reserve to use the lake?
7. What directions were used in reaching your decision? How does this differ from group to group?
8. How can a person quantify or measure environmental perceptions?
9. Why should we think of Lake Erie when discussing the problem?

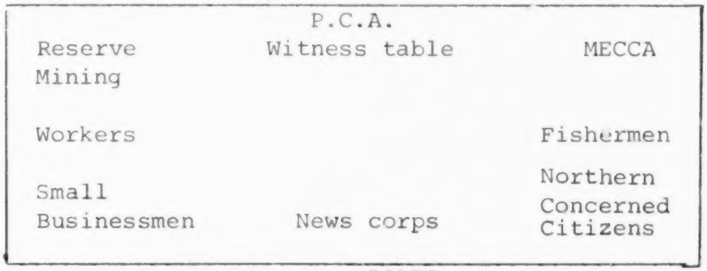
Election of P.C.A. Members

The constitution of the P.C.A. should reflect the diversity of opinion among the special interest groups in the simulation. To achieve this the game coordinator should indicate that Reserve Mining and workers should caucus and elect one of the number to the Agency. MECCA and fishermen should caucus and elect one of their number to the Agency. Small businessmen and Northern Concerned Citizens should caucus and elect one of their number. This should be done so that the students do not feel that coalitions have been forced on them.

Room arrangement - Rounds 1 and 2


Small Businessmen
Fishermen
Northern Concerned Citizens
Workers
P.C.A.
Reserve Mining
MECCA
News corps

Room arrangement - Round 3


P.C.A.
Witness table
Reserve Mining
MECCA
Workers
Fishermen
Northern Concerned Citizens
Small Businessmen
News corps

ROLES

The extent of necessary background information for all groups is too great to be printed here. Individual roles and data will be provided in the session as needed.

S-5-386

GROUP ROLE CARD

Reserve Mining Company, one of the most important taconite producing companies on Minnesota's Mesabi Iron Range, is a pioneer in the development of the taconite resource in Minnesota. You have operated a huge taconite pelleting operation at Silver Bay on Blue Lake for the past fifteen years. In the process of making taconite pellets, you use large quantities of water from Blue Lake, and deposit much of the waste rock from the taconite ore into the lake in the form of sand-like tailings. Both your taking of water from the lake, and depositing of tailings in the lake, are legal, and have been since 1947. In that year your company was granted a permit for use of the lake by both the U.S. Corps of Engineers and the Minnesota Pollution Control Commission. Your first load of taconite was shipped from Silver Bay in 1956.

For the first several years of operation in Minnesota, your company was very well received by both the state and the communities of Minnesota. In the last three years, however, your company has come under more and more pressure from conservation groups to stop its policy of placing taconite tailings in Blue Lake.

At the upcoming hearing your company is going to have to defend itself against what it considers to be the unjust charges which have been made against it. The company policy is that Reserve is not violating any permit issued to it for the use of the lake. Further, the company does not believe it is polluting the lake in any way.

Since beginning operations in 1956, your company has made many water sampling tests in the area of the Silver Bay plant. The results of these tests have always been sent to the Minnesota Pollution Control Agency (MPCA). The MPCA has not, until recently, made negative comments about the possible effects of the tailings on the lake water. Your company is also well aware of the fact that a long series of public hearings were held before the granting of the lake use permit to it in 1947, and that there were few objections by any groups, including so-called conservation groups, at that time. Your company is also well aware of the major role which was played by the state government to attract your corporation to the state.

WHAT TO WATCH FOR IN THE HEARING:

Of all the groups, yours probably has the most difficult task. You have a great deal of information in favor of your position. Because you have a real public relations problem, and many people to convince, your group will have to be well organized and know well the arguments you have collected in favor of your position.

ROUND ONE DUTIES - 1. Study your role. Try to adopt the personality of the person you represent. 2. Decide what must be done by your group, and assign group members to tasks, as lobbying, being interviewed, etc. Meet often as a group to compare notes. 3. Decide within your group which persons or groups might be most likely to agree with you. Talk to these people or groups, and try to convince them to join your group. Try to convince PCA members of the rightness of your cause. Be very available to news people. But be very careful to act in a way that will not cause the newsmen to speak against you, etc.

ROUND TWO DUTIES - Pay careful attention to the news broadcast, and decide whether or not the newspaper is favorable to your cause. Study your technical information, and plan your presentation. Continue to lobby. Keep your best foot forward at all times. Listen carefully to all testimony made by all groups. It will be to your advantage if you can prove that another group is using inaccurate or misleading information.

ROUND THREE DUTIES - Be prepared always to answer questions from the newsmen. Know your case completely. Continue to work hard on the public relations. Continue to try and convince the PCA of the rightness of your cause.

S-5-388

FISHING IN LAKE SUPERIOR

from: "An Appraisal of Water Pollution in the Lake Superior Basin"
Federal Water Pollution Control Agency, 1969

TYPE OF COMMERCIAL FISH CAUGHT	COMPARISON OF 1967 WITH OTHER YEARS	PROBABLE CAUSES FOR CHANGE	RELATIONSHIP OF CHANGE & TAILINGS
LAKE TROUT Catch .3 Mil. lbs--1967 *5.6 Mil. lbs--1903	Severely depleted 1967 catch 9% of 1944 and 6% of 1903	Sea Lamprey	Probably none
LAKE HERRING Catch 3.8 Mil. lbs--1967 *18.0 Mil. lbs--1941	Depleted 1967 catch 21% of 1941	Not definetely Known	1968 Study by Bur. of Fisheries showed herring catch to be better in area near tailings than in areas away from the tailings on Minnesota side
WHITEFISH Catch *1.3 Mil. lbs--1949 400-800,000 lbs is norm. 500,000--1967	Normal	-----	-----
SMELT 1.5 Mil. lbs--1967	Normal or increasing	-----	-----
CHUBS 1.3 Mil lbs--1959 *1.9 Mil. lbs--1967	Increasing	Increased fishing due to decline of Lake Trout	-----

* Record Year

Relative importance of Lake Superior among the Great Lakes in fishing: 1967

1.	Lake Michigan	59.0 Mil. lbs.
2.	Lake Erie	11.6 Mil. lbs.
3.	Lake Superior	7.9 Mil. lbs.

S-5-389

GROUP POSITION - Union Workers

Most of you are United Steelworkers of Silver Bay. You should realize that your jobs depend on the continuing operation of Reserve Mining Company. You, as employees of Reserve, have more at stake than any other single group of people. Fifteen years of your lives and all of your material things which you possess are in the Silver Bay area. The fact is, that you are a one industry town. Reserve Mining is your industry, the only one you have, and you can not stand silent and let someone destroy your livelihood!

As a group you do not have scientific facts or data; because you probably could not properly evaluate it. You feel that Reserve is concerned about its dumpings into the lake and is doing everything possible to arrive at a workable solution. You also feel that Reserve is being treated unfairly because not enough proof exists that Reserve is polluting the lake.

The environmental organizations have created much controversy, and you cannot support this group until you are certain that it is definitely and positively established that taconite tailings are causing pollution of Blue Lake. You are not opposed to a scientific study of Blue Lake or of the rock which is discharged from the plant. You feel the taconite discharge does not have the affect on the lake that some people would like to have you believe.

Seek information from other groups and take notes! Lobby with other groups that have similar interests. Do not describe your role to any other player.

S-5-390

GROUP ROLE CARD
COMMERCIAL FISHERMEN

You are members of a group of commercial fishermen concerned about the future of your way of life. Commercial fishing has been in a state of decline for several years. The lake's most valuable fish, the Lake Trout, was almost wiped out by the sea lamprey. This eel like parasite which sucks the blood of fish was unknown in the Great Lakes before the Welland Canal opened them to ocean shipping. The lamprey was brought under control only after an intensive research program and expensive control operation paid for by the states. This unpleasant experience with man's manipulation of the lake for economic gain is uppermost in your thoughts.

You are all lifetime residents of the North Shore and have a great love and respect for the lake. The life of a fisherman is hard. The lake is cold, the weather is often bad and winters always hard. Your catch is primarily trout and herring. The catch is sold in local markets either fresh or smoked. The taconite operations have caused you concern because of the dumping of tailings in the lake. You are angered by the "green water" which you believe is caused by the presence of fine tailings suspended in the water. In your judgment this green water has reduced the number of fish you catch. This opinion is based upon direct experience and not on laboratory experiments or theories.

As a group, you fishermen see yourselves living in harmony with nature and the lake. Many of you get your drinking water directly from the lake and would never think of it as a dumping ground. You are hard working people somewhat close-mouthed, suspicious of well-educated and sophisticated "experts". You are few in number thereby you have little political power. You must align yourselves with other groups if you are to have any influence. Seek information from Mecca and other conservation groups for information to support your opinion.

Each of you will assume the identity of one of the following fishermen. Your position and personality are spelled out in the following letters. Read them carefully and they tell you all you need to know.

Listen to newscast to determine your progress.

GROUP ROLE CARD
Citizens for a Clean Environment
Northern Concerned Citizens

You are members of a small group of local residents concerned about the lake. You are average citizens, not particularly well-educated, not active in politics or other social causes. This is your first venture into public affairs. You are deeply concerned about the future of the lake. Although your interest is great, the resources of your group--both in terms of money and expertise are very limited. Your primary activity previous to the hearing has been to arouse your fellow citizens to the dangers of the problem by drawing up petitions and talking informally to local politicians. In the course of these activities you have encountered a great reluctance among people to sign petitions, lobby, etc. While many of these people say they are in favor of cleaning up the environment, they are also violently opposed to any increase in their taxes or any economic hardships in the area.

Each of you are to assume the position and personality of one of the individuals described in the individual role cards. DO NOT describe your role to any other players.

GROUP ROLE CARD
NEWS CORPS

As responsible newspeople your role is the most difficult and the most essential in the discussion. The public depends upon you to determine the issues in back of the hearings, to uncover the existence of any underhanded dealings and to analyze the details of the hearings. You are protected by the First Amendment to the Constitution which guarantees Freedom of the Press. The responsibilities and obligations which accompany this freedom are to prevent the publication of propaganda. Therefore do not lie! The public relies on you to protect their interest. You are to act as a team and work together. You will have two major tasks:

1. At the beginning of each day you will make a report on what happened the day before. This report should be done in the style of a national network news broadcast and you should use either video or audio tape. (Your teacher will brief you on the availability of equipment). When you have decided what you want to tell the public make up a script for a short broadcast of not more than five minutes. Read this script onto tape and splice in clips from interviews when appropriate. The only limit on you is your creativity. Listeners should be able to tell who has the upper hand.
2. After the hearing is completed and the PCA has announced a verdict the news team will appear as a panel to comment and editorialize on the entire affair. The main purpose of this program will be to evaluate the judgment and the actions of the individual members of the PCA. This is to be done live before the groups.

BACKGROUND CARD
REPORTERS

REPORTING ON THE CONTROVERSY:

The PCA is a public agency and it is your task to report on the PCA as well as the controversy to the people of the state. YOU are the public's watch dog! Be alert for political and financial influences on members of the PCA and on various special groups. Make sure the hearings are fair and that all sides have the opportunities to express their viewpoint. Pay close attention to the kinds of arguments used to convince people, watch for people who use scare tactics, overblown arguments, illogical statements, falsehoods or attempt to muscle people.

Gather your information by interviewing the people involved. Interview as many people as possible. Prepare a set of appropriate questions before each interview and structure your interviews so that your audience learns the basic opinion of each person, the degree these beliefs can be changed and the groups exerting the most pressure on him. Be sure to ask permission before questioning anyone directly. Remember you may be denounced in the public hearing of the PCA for misrepresenting a person's point of view or his integrity.

Sample questions for interviews:

1. What is your group's attitude toward the question of dumping taconite tailings into the lake?
2. Do you agree with this opinion? Did any other person influence this opinion?
3. What other groups have opinions similar to yours?
4. Have members of your group discussed this matter with your representative on the PCA? What is his reaction?
5. How do you answer your opponent's statement of "__________"?

Summary of duties round by round:

Round One: Report on the situation and the individuals involved.
   1. Familiarize yourself with your equipment.
   2. Determine your editorial policy (support one side or the other or be strictly neutral).
   3. Prepare a list of all the participants and their roles.
   4. Arrange interviews with people.
   5. Conduct your interviews.
   6. Prepare your scripts and make your broadcasts at the beginning of each day.

Round Two: Determine the effect of PCA call, and report on lobbyists.
   1. Continue to interview participants.
   2. Try to learn what methods of persuasion are being used.
   3. Report to the people of the PCA's call for hearings and the lobbyists.

Round Three: Report on the Hearing.
   1. Keep careful note of all the testimony during the hearing. You will need it in your evaluation of the PCA.
   2. Watch the way the chairman of the PCA runs the hearing to make sure everyone is heard.
   3. Make your reports at the beginning of each day. Indicate who you think is making the strongest case.

Round Four:
After the PCA announces its decision evaluate it in your panel discussion.

GROUP ROLE CARD
Members of the Pollution Control Agency

The future of your state's environment is in your hands. Although each of you are members of one of the special interests groups engaged in the controversy over the dumping of tailings into Blue Lake you are ultimately responsible to the citizens of the state. The newspapers, guardians of the public interest, will carefully monitor your activities. You're to resolve the question and take full responsibility for your decision. Remember as individual members you are in basic agreement with the special interest group from which you were elected. Any decision you make will be a compromise.

Because your group is the center of the action your duties will vary from round to round.

Round One:
1. Elect a chairman to conduct any hearings and in general be responsible for the official conduct of the PCA.
2. Designate a recorder to register all people who wish to make public statements in the hearings.
3. Determine what information you need to reach a conclusion on the pollution of the lake.
4. Discuss the significance of a polluted lake.
5. As individuals, make appointments with members of the special interest groups to learn their opinions. Question them closely and scrutinize the factual base of their positions. This interview should not excede five minutes.
6. Grant interviews to newsmen.

Round Two:
1. Watch the presentation by MECCA and vote on their request. Since one vote is enough to call a hearing, issue the call.
2. Continue your discussions of what information you will need to reach a conclusion.
3. Make appointments for interviews with special interest groups as in round one. Be alert to the techniques used by groups in their attempts to convince you.
4. Grant interviews to newsmen.
5. The recorder will set up the speakers schedule for the hearing.

Round Three:
1. Chairman calls the meeting to order.
2. Recorder indicates who is to speak.
3. Speakers make their presentations and you cross-examine. Ask for written statements from each speaker.
4. Ask for questions and comments from audience. Make sure all questions are to the point and do not allow any speech to be given from the floor.
5. After you have heard all the arguments, adjourn the hearing.
6. Retire and reach your decision. MAJORITY RULES.

S-5-394

Round Four:

1. Announce your decision and explain your reasons. The minority member may file a report if he wishes to.
2. Listen to the news corps evaluate your performance.

THE ROLE FOR MECCA

Mecca is a group of persons concerned with preserving the environment. They have been organized for approximately four years and in that time have accumulated a membership of over 4,000. Their main weapon in persuading polluters not to pollute and rape the landscape has been their effective use of marshaling public opinion. Mecca has also acquired strong influence politically and were instrumental in helping elect a governor and several legislators who place preservation of the environment as their primary concern.

During the unfolding of this simulation it will be incumbent upon the team members of Mecca to bring the Reserve Mining team to Mecca's point of view. The enemy in this simulation is Reserve. They have been polluting Blue Lake for several years by dumping taconite wastes into the lake. The organization feels that this practice must stop. You should attempt to organize support of the local fishermen, concerned citizens, resorters, union members and others. Mecca will accept on-land disposal (as long as environmental interests are protected but nothing less). Lobby (i.e. try to influence) the Pollution Control Agency (the group who must make the final decision) and make maximum use of the news media by using emotional arguments. Tug at the heart-strings. Remember, at all times, check your data and authenticate your arguments during the public hearing time. Your main argument is the lake belongs to the people, not mining interests and that Reserve has no right to dump their dirt into it.

During the simulation follow these steps:

Prior to Round One.

1. Receive group cards.
2. Select a leader for the group.
3. Nominate one of your group for the PCA (cannot be the leader).
4. Attempt to influence other people in the Concerned Citizens Group to vote for your representative to the PCA.

Round One

1. Receive individual role cards. Assume a new personality.
2. Discuss the A-V presentation. Pick out slides that will be useful to your group.
3. Assemble and organize your positions and data. Divide up responsibilities.
4. Prepare an appeal for a hearing charging Reserve Mining with violating their permit. Do not use all your arguments in this charge. You will be limited on time during the charge.
5. When the teacher indicates that you can begin lobbying, move among the other groups attempting to gain their support in your case against Reserve. Do not give any information to Reserve. Only give information to those people who agree to support you.

Round Two

1. Listen to news broadcast to see how your group is doing.
2. Present your plea for a hearing on Blue Lake (limit 5 minutes).
3. If plea is accepted prepare your case against Reserve.
4. Lobby - influence other groups - gain their support - give them arguments they can use against Reserve.

Round Three

1. Ask the PCA Chairman for permission to testify against Reserve.
2. Present your case against Reserve and be prepared to ask and answer questions of other groups.
3. Await the verdict.

Iron Ore shipped from
Mesabi Range, Minnesota

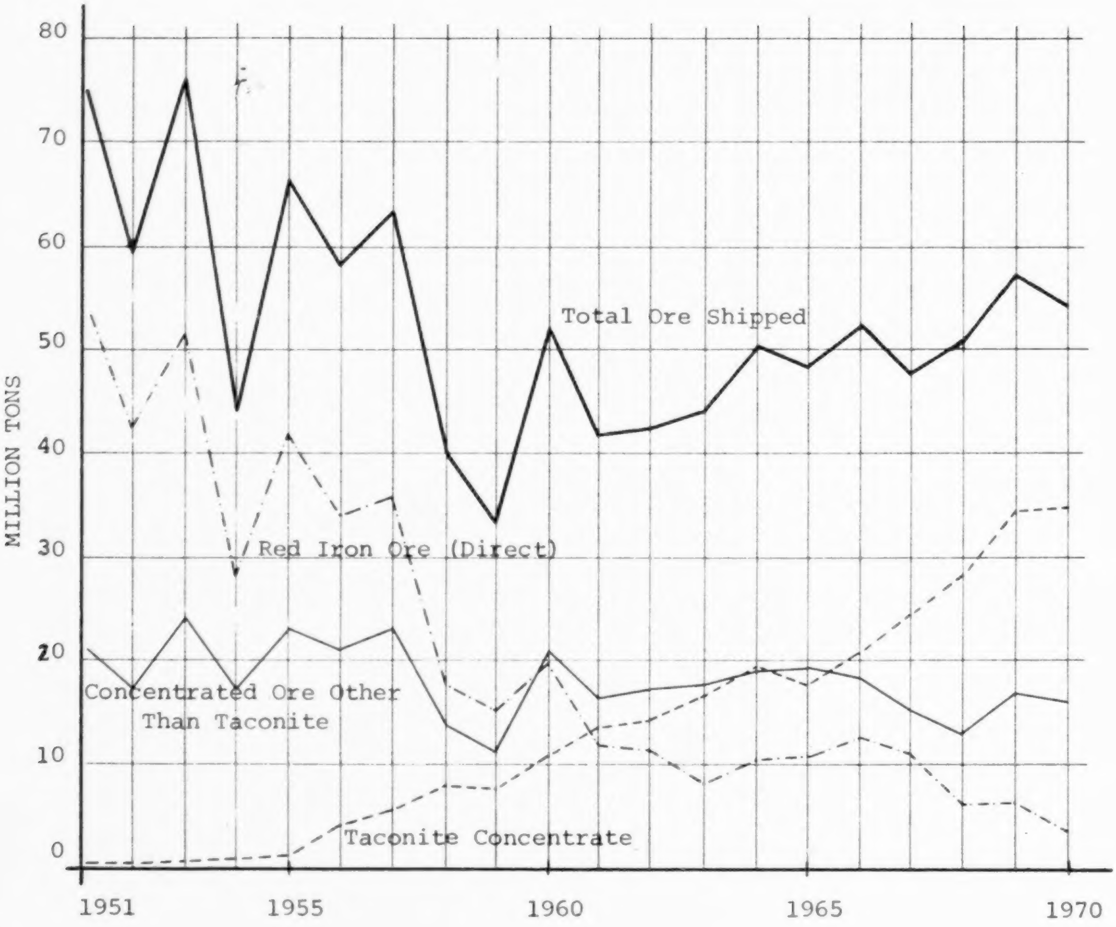


Figure 1

S-5-398

EMPLOYMENT AND UNEMPLOYMENT
Hibbing, Minn. (Mesabi Range)
Area

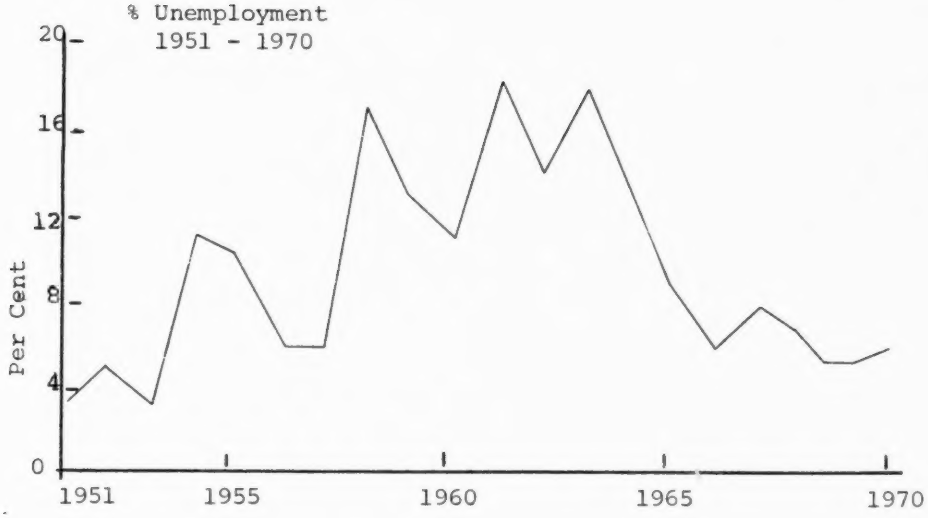


Figure 2

EMPLOYMENT AND UNEMPLOYMENT
Hibbing, Minn. (Mesabi Range)
Area

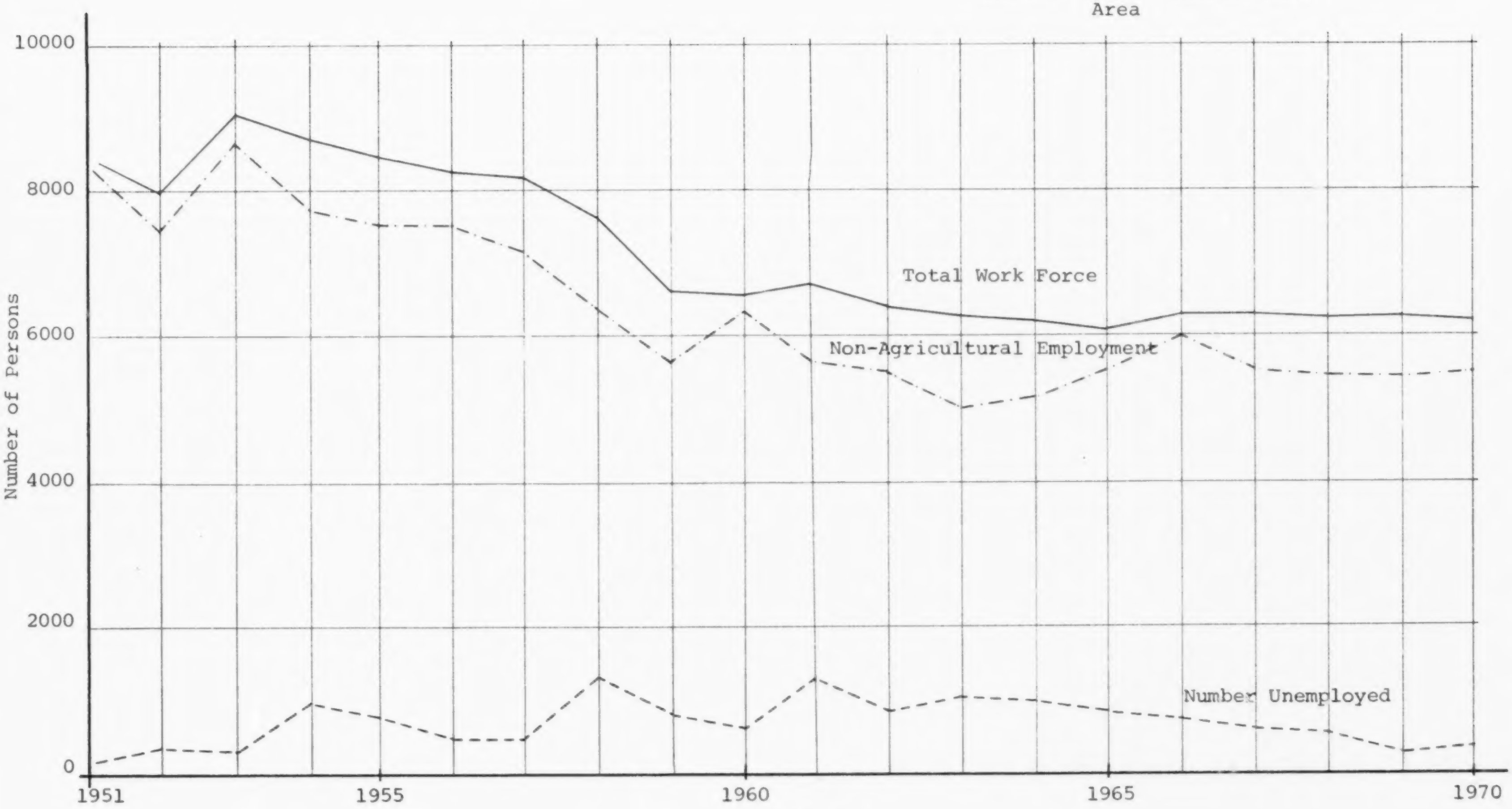


Figure 3

S-5-400

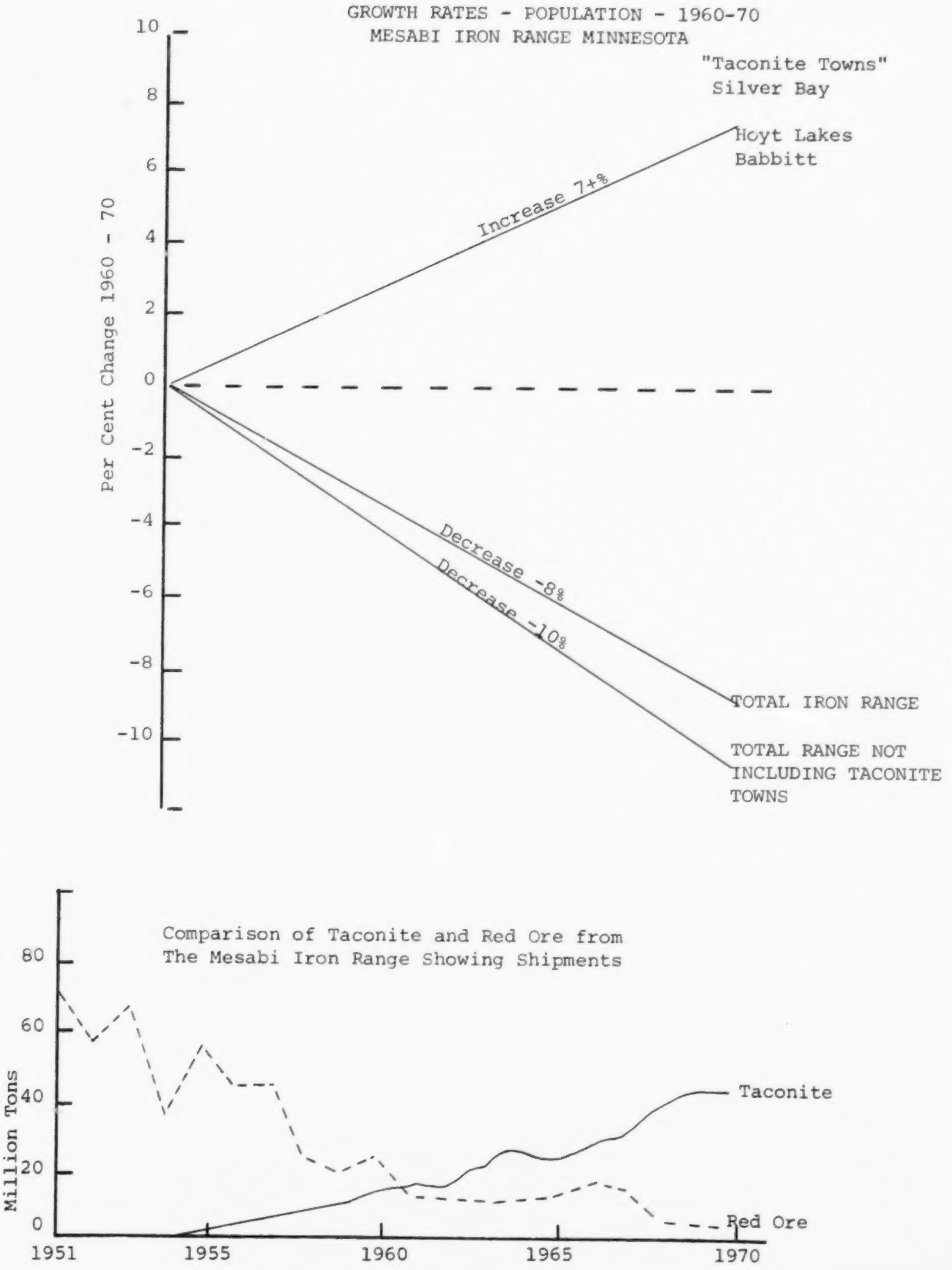


Figure 4

(GRAP[redacted]-1)

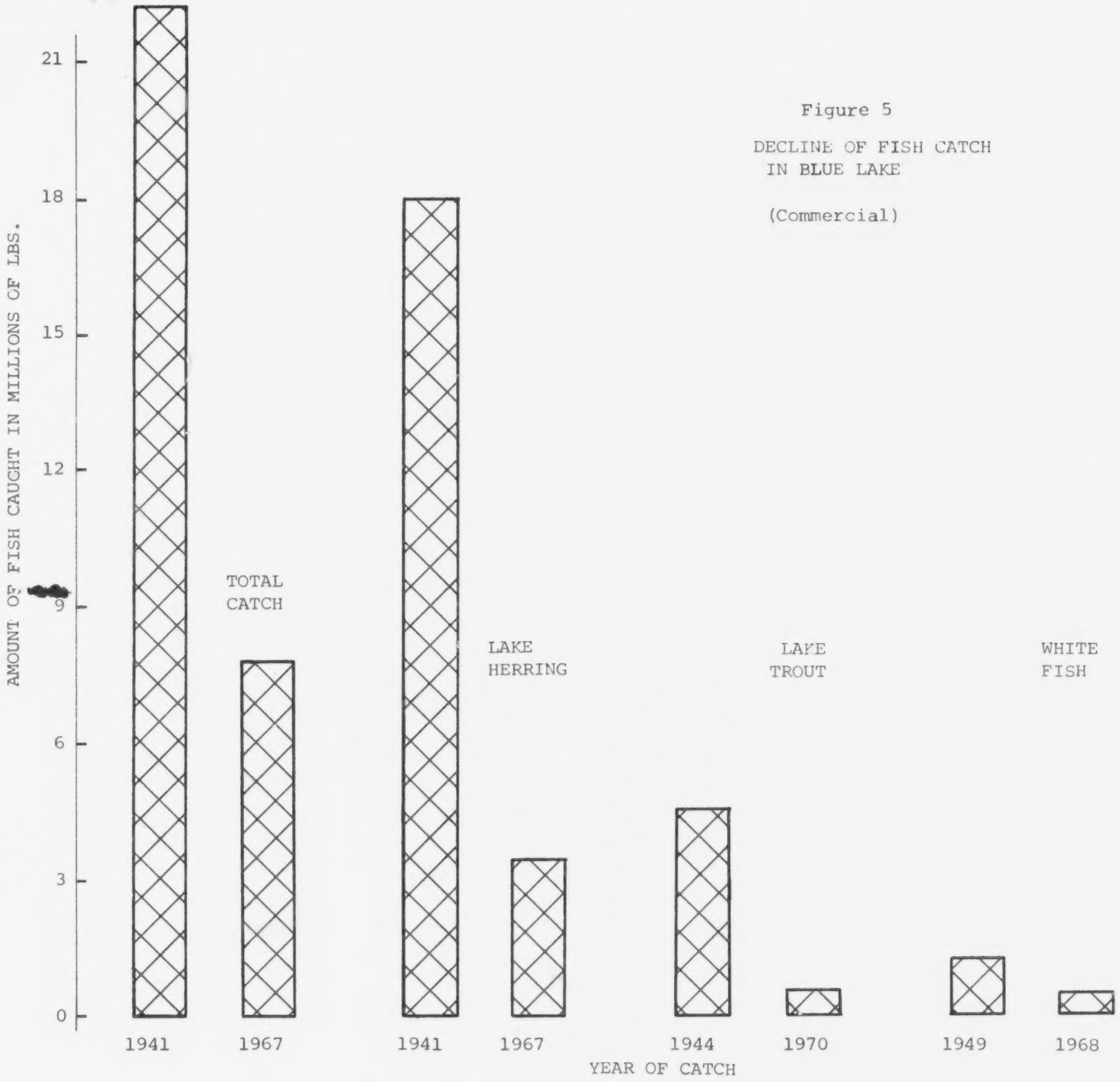


Figure 5

DECLINE OF FISH CATCH
IN BLUE LAKE

(Commercial)

S-5-401

S-5-402

ALGAE GROWTH IN LAKE BLUE SEPT. 1969

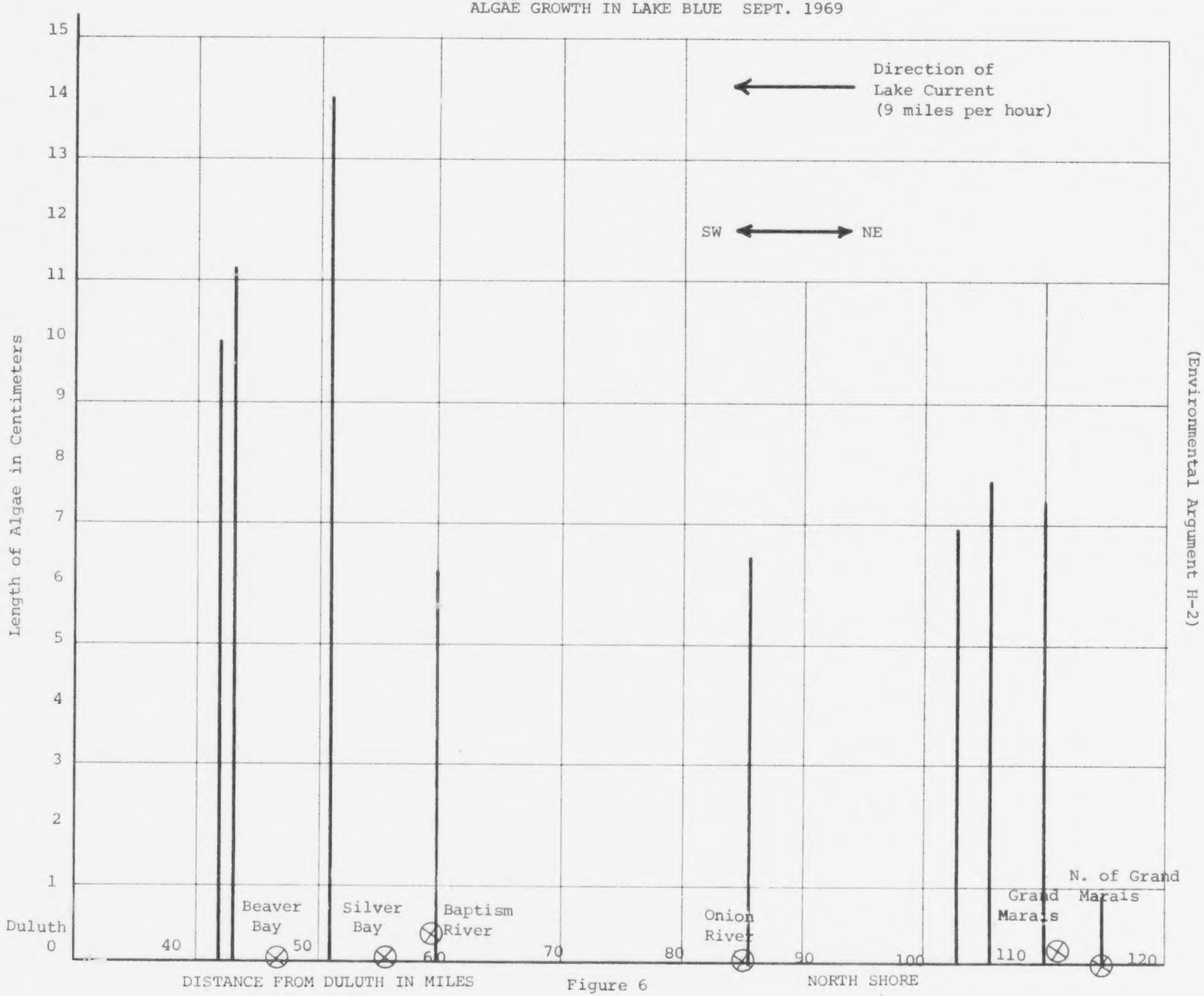
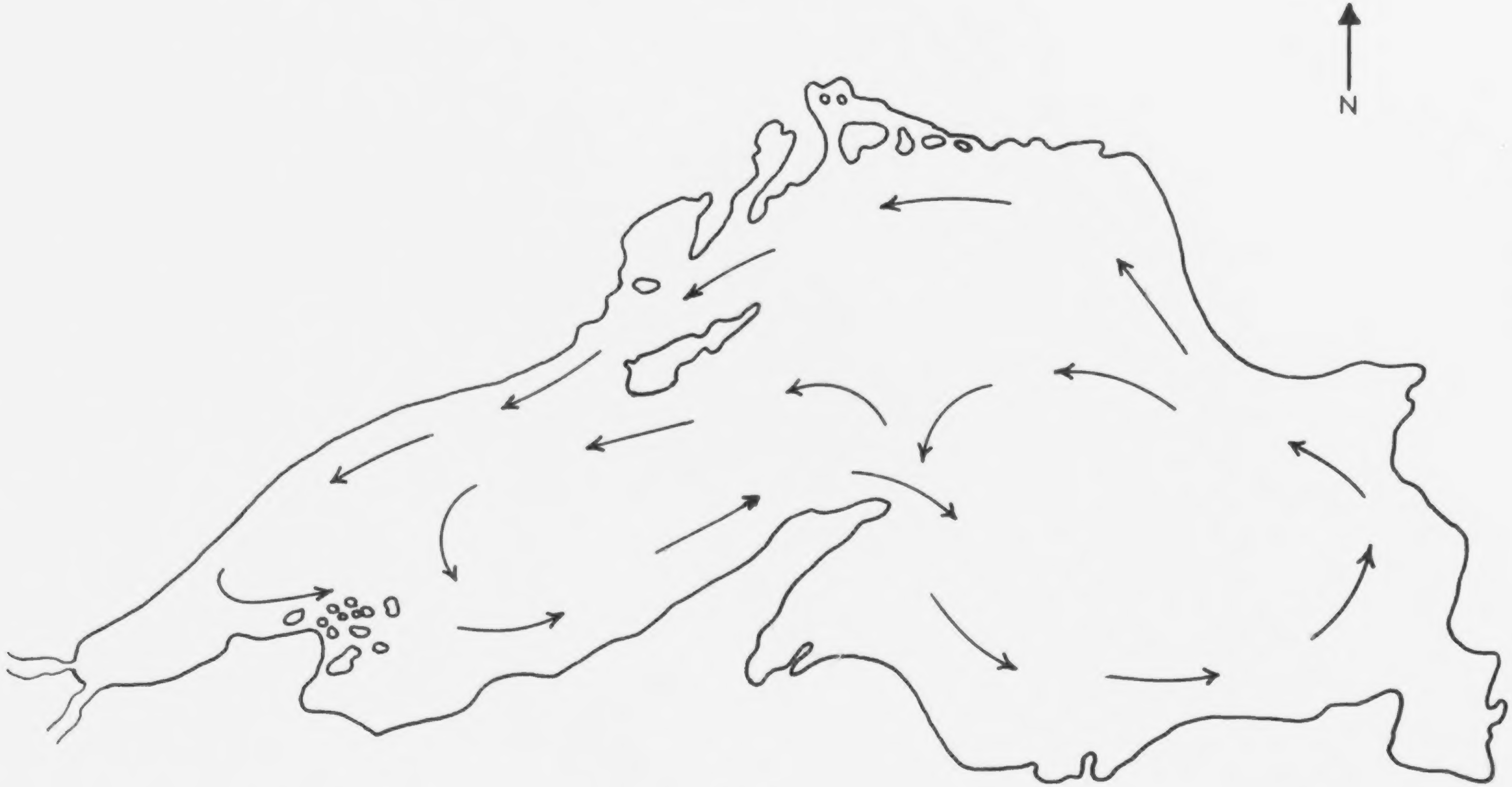


Figure 6

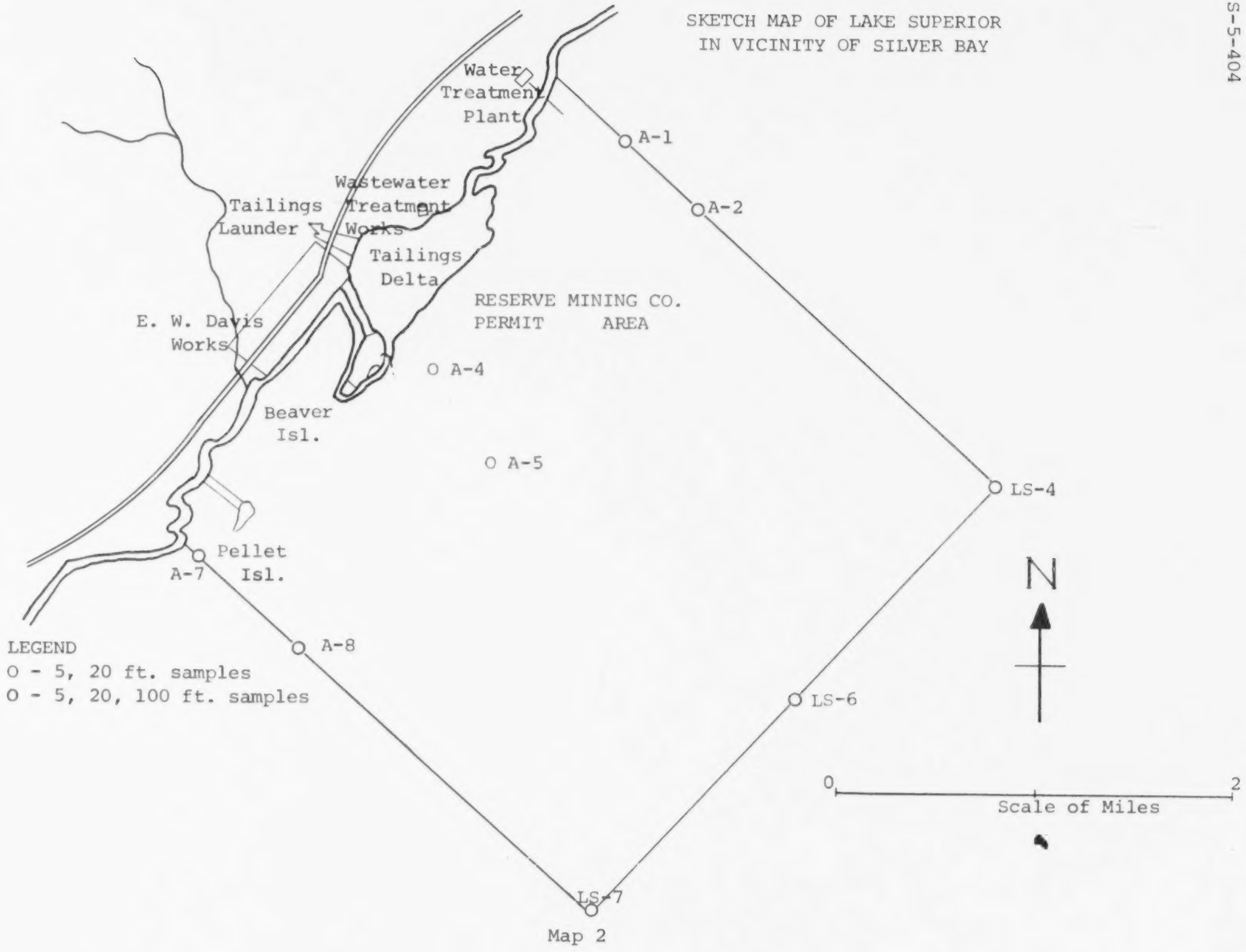
(Environmental Argument H-2)

LAKE CURRENTS OF BLUE LAKE



Map 1

SKETCH MAP OF LAKE SUPERIOR IN VICINITY OF SILVER BAY


Water Treatment Plant
Wastewater Treatment Works
Tailings Launder
Tailings Delta
E. W. Davis Works
Beaver Isl.
Pellet Isl.
RESERVE MINING CO. PERMIT AREA
A-1
A-2
A-4
A-5
A-7
A-8
LS-4
LS-6
LS-7
N
0
2
Scale of Miles

LEGEND
○ - 5, 20 ft. samples
○ - 5, 20, 100 ft. samples

Map 2

S-5-405

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management of Preferences.

Title: "Regional Planning: Focus on the Toronto-Centered Plan; Implications and Reactions."

Descriptor: The session will develop the multiple ways in which various concerned groups might react to such a regional plan when presented by a political body legally able to implement its concepts. The implications, reactions, and problems of regional plans are the central themes.

Discussion Leader: William S. Addison, Huron Heights Secondary School, New Market, Ontario, Canada.

* * * * *

Regional Planning: Focus on the Toronto-Centered Plan; Implications and Reactions.

Tokyo: Pollution, congestion;
Detroit: Prejudice, tension, as also
New York, Chicago, Los Angeles, and more;
Toronto: Is it an exception?

Urban expansion: will it ever stop?
Should speculation, slums and sprawl occur at all?
More leisure, more affluence,
But is there open space for all?

In approaching the pandora box of environmental quality one asks "why is it that society wants all the benefits before it has discovered most of the consequences?" Similarly, one ponders, "is environmental quality only an afterthought of environmental destruction?"

It seems that major super cities (the metropolitan and megalopolitan spaces) by their sheer population densities and numbers create most of the environmental problems. Therefore, the answer may be either to plan properly for super cities, or to develop a dispersed network (or, system) of smaller cities. Either solution will require a planning body, and political power (legislation) structure to insure conformity to the plan.

In Ontario, overall planning control rests with the Provincial government. The private sector, and local municipal government are controlled by the Ontario Municipal Board, a division of the Provincial government; whereas, all governmental departments and agencies themselves are responsible to the Ontario Cabinet.

For several years it has been recognized academically that urban growth in Southern Ontario, if not controlled, would culminate in a megalopolitan belt extending from Windsor-Sarnia on the west, to Montreal (P. Que.) on the east. This belt is itself part of the larger Chicago-Detroit-Montreal complex.

The main area of concern within the southern Ontario urban corridor is the space within a 90-mile arc of Metro Toronto, commonly referred to by urban geographers as the Mississauga conurbation (Map No. 1). It is this area which has been the focus of many governmental and private sector reports. The result of this may be the creation of a new political method of governmental problem solving; an integrated, as opposed to a single factor, approach. In short, a regional, or comprehensive planning approach; compared to a one-purpose approach such as sewage treatment, or highway development.

Definite steps were taken toward the integrated approach when the Ontario Government in December, 1962, created the Metropolitan Toronto and Region Transportation Study (MTARTS). Three major reports were issued by this group. Volume 2, Choices for a Growing Region, proposed several alternative growth patterns for the 3,200 square mile study area. Consequently public and private briefs were requested so that an acceptable regional plan could be developed. From this it was decided that the study area should be enlarged and renamed the Toronto-Centred Region. This new area encompasses 8,600 square miles in the prime impact area, while the interaction area comes to about 15,000 square miles (Map No. 2).

In May, 1970, the Ontario Government, through the Regional Development Branch of the Department of Treasury and Economics, issued its Design for Development: The Toronto-Centred Region. The findings of this report are to be basic guidelines in all government decisions concerning the Toronto-Centred region. The major objectives of this development concept are to encourage a more even distribution of people in Ontario, to improve the quality of life for the inhabitants, and to use better the natural environment.

The study established five development principles, and 12 regional goals, which, if implemented, could counter the existing trends, and allow the objectives to be attained. These principles and goals are simply listed here.

1. Linearity, or the alignment of urban places along a series of relatively straight paths; thus taking maximum advantage of parallel routes for transportation and service.

2. Functional efficiency, or the seeking of a best set of political, economic, and social relationships for all urban and rural places.

3. Decentralization, which emphasizes two aspects:
   a. the importance of metropolitan centre influence, and
   b. a logical distribution of urban places within a metropolitan region, with special attention to the encouragement of smaller centres functionally tied to the region beyond easy commuter distance to the centre.
4. Space conservation, with stress on adequate open space and recreational requirements measured on a per capital basis.

5. Natural resource conservation, or the careful use of land, water and air.

Regional Development Goals

1. To facilitate the achievement of the Region's economic potential, consistent with the overall provincial interest and development.
2. To preserve the unique attributes of the regional landscape.
3. To minimize the urban use of productive agricultural land.
4. To minimize the pollution of water, and air.
5. To facilitate and maintain a pattern of identifiable communities.
6. To provide best possible accessibility for the movement of people and goods.
7. To provide essential transportation, water and sewer facilities at minimum cost consistent with overall benefit.
8. To maximize opportunities for using specialized services and facilities.
9. To develop in a manner consistent with the needs arising from long-term population trends, particularly in
   a. scale of growth
   b. anticipated changes in household size
   c. composition of the dwelling types and the density of settlement, and
   d. age distribution
10. To develop in a manner consistent with emerging and probable future technological innovations (i.e. to facilitate, adjust to, and receive the benefits of such possibilities).
11. To develop in a manner consistent with the needs arising from social changes resulting from economic, and technological developments, e.g. changing patterns in the use of leisure time.
12. To develop the Region in a manner that provides flexibility.

These principles and goals will not likely be attained if the existing trends and development problems are not altered. The major trends within the region are:

1. The high rate of population growth. In 1966, the region contained 3.6 million people (or, 52 per cent of the Provincial total). This number is expected to increase to 8 million by the year 2000.
2. Most of this growth is occurring in the region's core (Metropolitan Toronto). However, radial suburban growth and infilling is occurring along the key transportation routes with a pronounced westward movement being noted. Thus, growth to the north, and east is occurring more moderately.
3. The increase in income, leisure time, and mobility are expected to continue and compound the existing problems.

Major Development Problems

1. Within Metropolitan Toronto:
   Congestion, pollution, inadequate housing coupled with deteriorating core areas, a need for more outdoor recreational space, and improved access to the hinterland are paramount.
2. Within the region:
   Sprawl and urban shadow (10 to 25 acre lot-sized subdivision),

are destroying much agricultural and recreational land, and producing inefficient and expensive transportation and service facilities, plus higher educational costs; accessible water bodies are being ringed with summer cottages removing prime recreational land from public use; adequate sewage and water facilities are lacking in much of the area; and there is inadequate use of natural resources.

3. Beyond the Toronto-Centred Region:
The northern and eastern portions of Ontario are receiving less growth stimulus, and linkages between these areas and the Toronto-Centred Region are weakening. This will reduce the sense of provincial identity.

To attain the fundamental objectives and to counter the existing trends and development problems of the Region the "Design for Development" divided the Toronto-Centred Region into three divisions (or zones):

Zone 1 - the lakeshore urbanized area; Zone 2 - the Commutershed; and Zone 3 - the peripheral area (Map No. 3). For each of these zones, specific recommendations have been proposed.

Recommendations for Zone 1 (Map No. 4).

1. A policy of decentralization (of people, and industry) will be instituted reducing the present percentage of the regional population from 76 percent in 1966 (2.7 million) to 72 percent (5.7 million) by the year 2000.

   By this time, it is proposed that 3.1 million people (or 55% of Zone 1) will live in Metropolitan Toronto, and its northern fringe; 1.8 million (or 32%) will be to the west; and 750,000 to the east (13%). The greatest percentage change will occur in the east of Metro.

2. A system of local, sub-regional, and regional cities will be developed providing a wide choice in urban environmental situations. These cities will be arranged in two linear patterns (or tiers) parallel to the Lake Ontario shoreline. The southern tier (closest to the lake) will be larger in population than the more northern. Emphasis on development here will be in the decade of 1970-80. The upper tier will receive emphasis after 1980.

3. The two tiers of cities will be separated by a Parkway Belt, a multi-purpose system composed of open space (planned outdoor recreational areas), and a multitude of services ranging from sewer and water, to energy and transportation. The emphasis in transportation will be away from automobile-oriented, toward a more balanced transit system.

Recommendations for Zone 2 (Map No. 5).

1. Growth will be limited. A moderate increase will occur from 160,000 in 1966 to 300,000 by 2000. However, the percentage of regional population will decrease from 4.5 per cent to 3.7 per

cent. Within this zone the provision of sewer and water facilities is expensive and is a detriment to intensive settlement.

2. The land use emphasis will be on conservation, recreation, open space, and agriculture.

3. The growth that occurs in Zone 2 will be within existing centres (i.e. Orangeville, Bolten), or along the Yonge St. axis extending northward from Metro to Barrie.

Recommendations for Zone 3 (Map No. 5).

1. The growth in population be stimulated, especially in the northern and eastern portions. The regional percentage should increase from 20 per cent in 1966 (or 7000,000) to 25 per cent in the year 2000 (or 2 million). The existing cities of Barrie and Midland (in the northern portion) will receive emphasis in the 1970's, whereas, Port Hope and Cobourg (the eastern section) will receive emphasis after 1980.

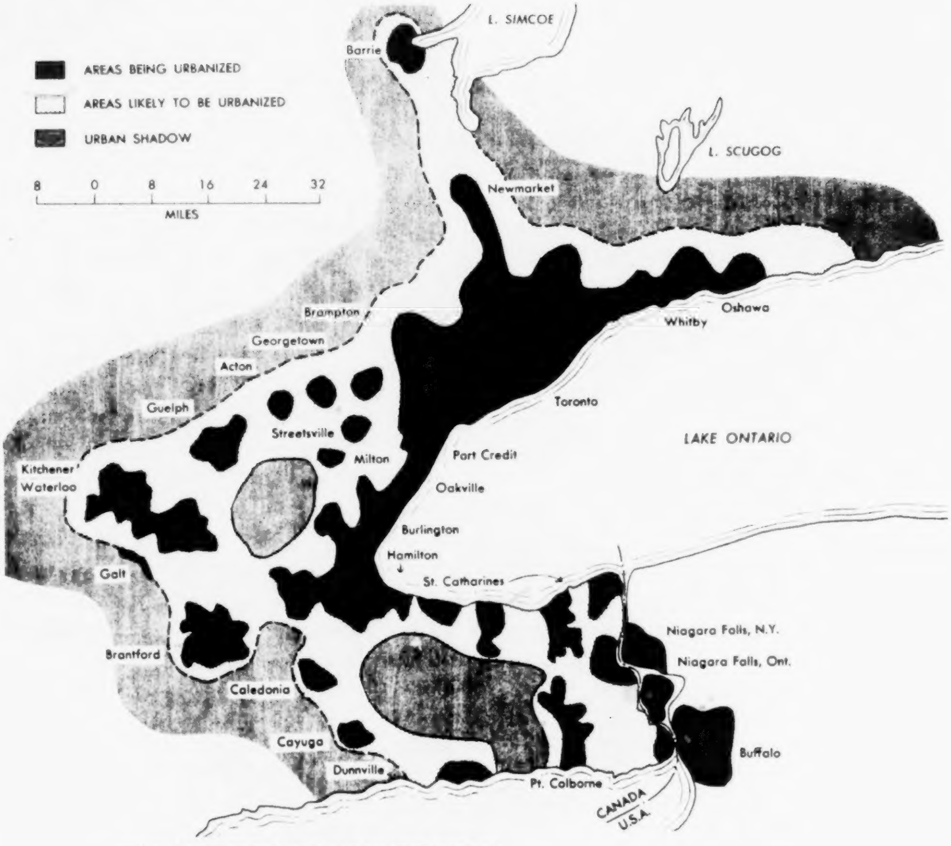
2. Within the western portion the two problem areas of (a) the Kitchener-Guelph conurbation and Brantford-Paris will receive further study to determine their roles in the Toronto-Centred Region.

Recommendation Common to all Zones:

1. Adequate open space be developed utilizing not only the parkway belt but also river valleys, ravines, and unique physical features such as are found within the Niagara Escarpment, Georgian Bay Shoreline, Lake Simcoe, and the Kawartha Lake.

2. The whole region and beyond will be linked with a transportation system reflecting the latest technology, and yet operating efficiently and economically. It is recognized that a new international airport could have an immense influence on the Toronto-Centred region. Thus, the site selected should not conflict with the objectives of this Development Concept.

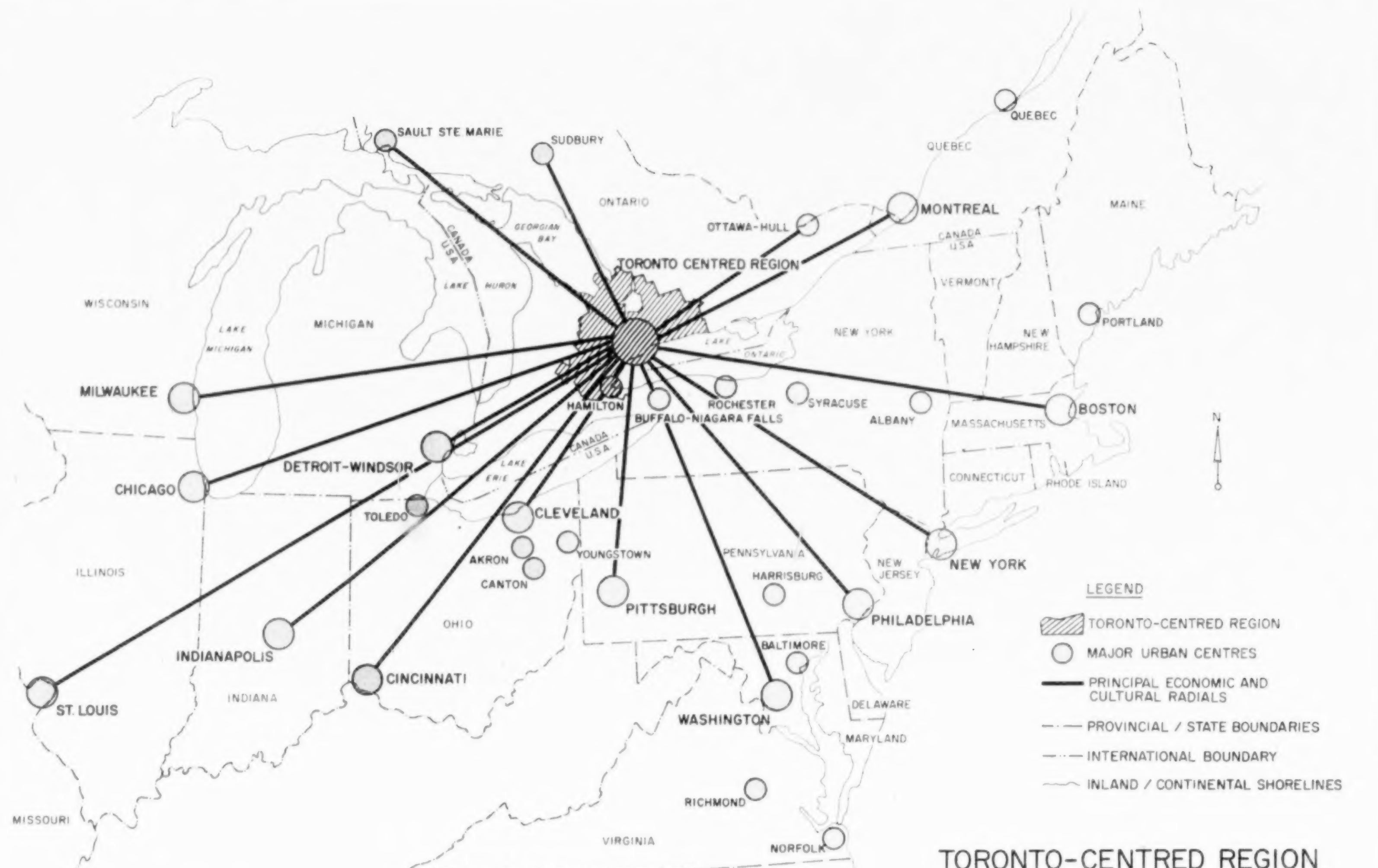
In short, this report is only the first of a series which, when taken together, will have a profound influence on the lives of the people of Ontario.


AREAS BEING URBANIZED
AREAS LIKELY TO BE URBANIZED
URBAN SHADOW
8 0 8 16 24 32
MILES
L. SIMCOE
Barrie
L. SCUGOG
Newmarket
Oshawa
Whitby
Brampton
Georgetown
Acton
Guelph
Streetsville
Milton
Toronto
LAKE ONTARIO
Port Credit
Oakville
Kitchener-Waterloo
Burlington
Hamilton
St. Catharines
Galt
Niagara Falls, N.Y.
Niagara Falls, Ont.
Brantford
Caledonia
Cayuga
Buffalo
Dunnville
Pt. Colborne
CANADA
U.S.A.

THE MISSISSAUGA CONURBATION

Map No. 1

"Copyright (c), 1970, Holt, Rinehart, and Winston, Canada, Ltd., from publication Regional and Resource Planning in Canada. Reproduced by permission of the publisher."


SAULT STE MARIE
SUDBURY
ONTARIO
QUEBEC
QUEBEC
MONTREAL
MAINE
OTTAWA-HULL
CANADA
USA
VERMONT
GEORGIAN BAY
LAKE HURON
TORONTO CENTRED REGION
WISCONSIN
LAKE MICHIGAN
MICHIGAN
NEW YORK
NEW HAMPSHIRE
PORTLAND
LAKE ONTARIO
MILWAUKEE
HAMILTON
BUFFALO-NIAGARA FALLS
ROCHESTER
SYRACUSE
ALBANY
BOSTON
MASSACHUSETTS
DETROIT-WINDSOR
LAKE ERIE
CHICAGO
TOLEDO
CLEVELAND
CONNECTICUT
RHODE ISLAND
N
ILLINOIS
AKRON
CANTON
YOUNGSTOWN
PENNSYLVANIA
HARRISBURG
NEW JERSEY
NEW YORK
PITTSBURGH
PHILADELPHIA
OHIO
INDIANAPOLIS
BALTIMORE
CINCINNATI
ST. LOUIS
INDIANA
WASHINGTON
DELAWARE
MARYLAND
RICHMOND
MISSOURI
VIRGINIA
NORFOLK
LEGEND
TORONTO-CENTRED REGION
MAJOR URBAN CENTRES
PRINCIPAL ECONOMIC AND CULTURAL RADIALS
PROVINCIAL / STATE BOUNDARIES
INTERNATIONAL BOUNDARY
INLAND / CONTINENTAL SHORELINES

TORONTO-CENTRED REGION

NORTHEAST NORTH AMERICA CONTEXT

5

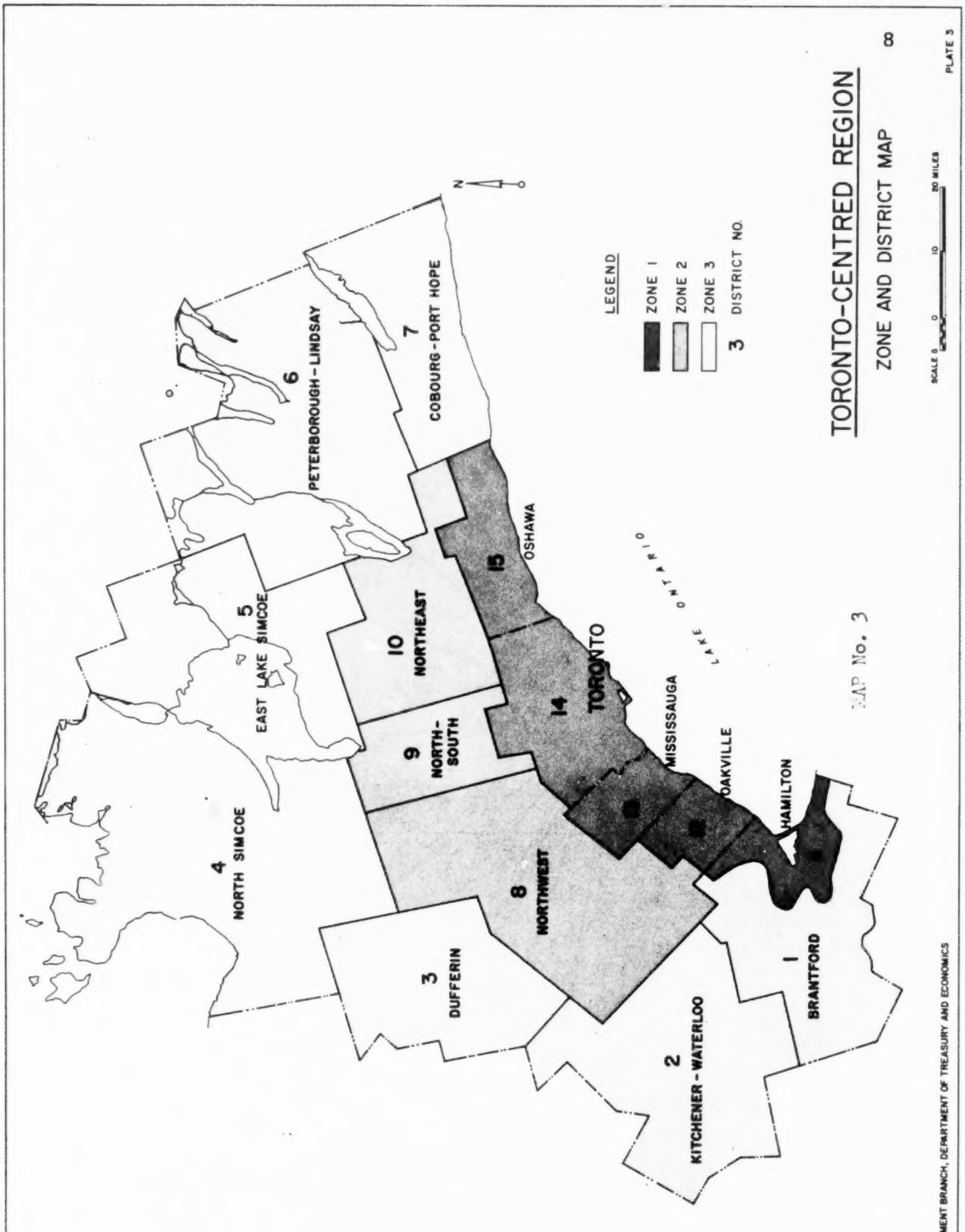
No. 2

SCALE 50 0 50 100 MILES

REGIONAL DEVELOPMENT BRANCH, DEPARTMENT OF TREASURY AND ECONOMICS

PLATE I

S-5-412

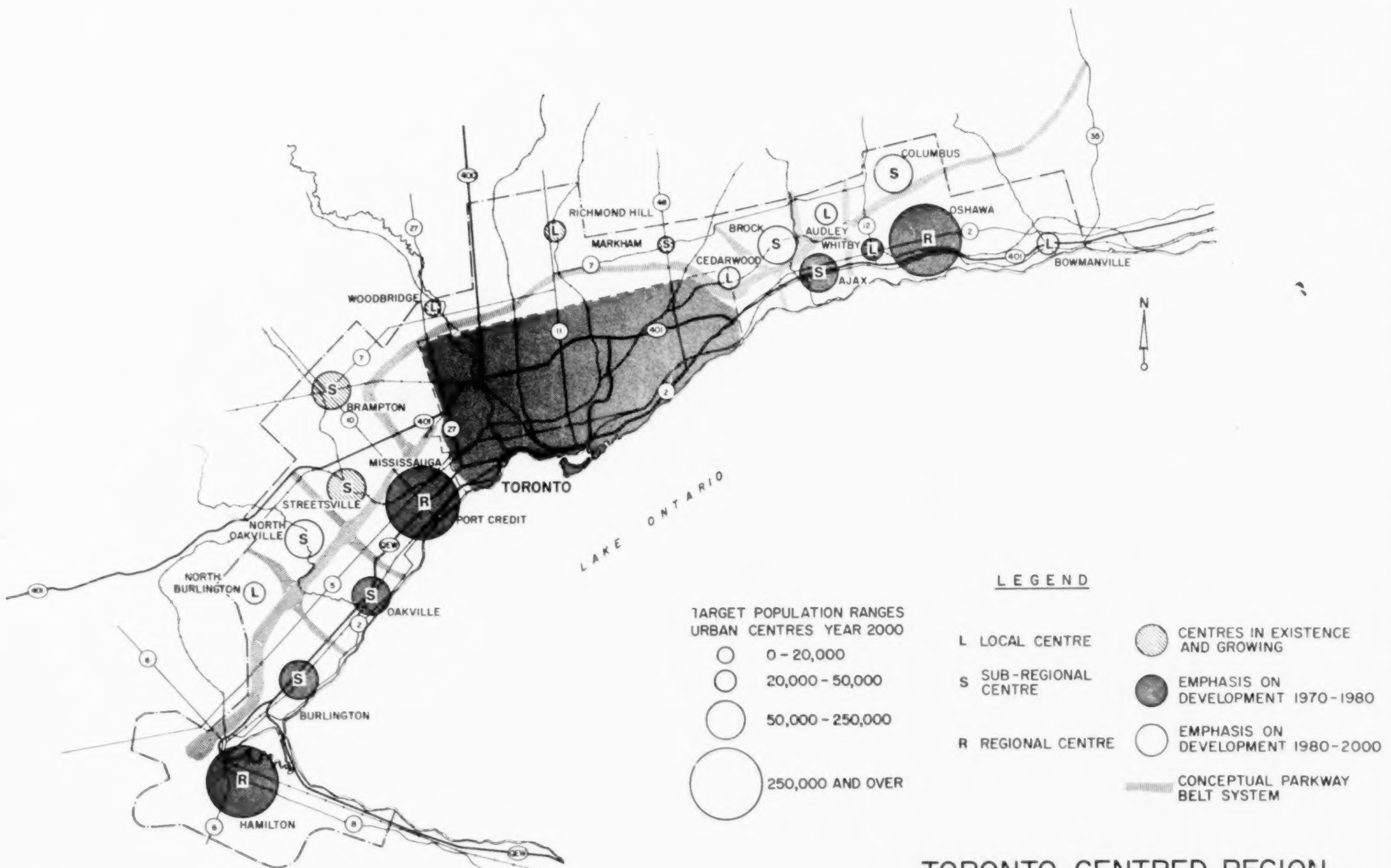

1 BRANTFORD
2 KITCHENER-WATERLOO
3 DUFFERIN
4 NORTH SIMCOE
5 EAST LAKE SIMCOE
6 PETERBOROUGH-LINDSAY
7 COBOURG-PORT HOPE
8 NORTHWEST
9 NORTH-SOUTH
10 NORTHEAST
14
15
TORONTO
MISSISSAUGA
OAKVILLE
HAMILTON
OSHAWA
LAKE ONTARIO
N
LEGEND
ZONE 1
ZONE 2
ZONE 3
3 DISTRICT NO.
SCALE 0 10 20 MILES
8
PLATE 3

TORONTO-CENTRED REGION

ZONE AND DISTRICT MAP

REGIONAL DEVELOPMENT BRANCH, DEPARTMENT OF TREASURY AND ECONOMICS

MAP No. 3


RICHMOND HILL
MARKHAM
BROCK
CEDARWOOD
AUDLEY
WHITBY
AJAX
COLUMBUS
OSHAWA
BOWMANVILLE
WOODBRIDGE
BRAMPTON
MISSISSAUGA
TORONTO
STREETSVILLE
PORT CREDIT
NORTH OAKVILLE
NORTH BURLINGTON
OAKVILLE
BURLINGTON
HAMILTON
LAKE ONTARIO
N
LEGEND
TARGET POPULATION RANGES URBAN CENTRES YEAR 2000
0 - 20,000
20,000 - 50,000
50,000 - 250,000
250,000 AND OVER
L LOCAL CENTRE
S SUB-REGIONAL CENTRE
R REGIONAL CENTRE
CENTRES IN EXISTENCE AND GROWING
EMPHASIS ON DEVELOPMENT 1970-1980
EMPHASIS ON DEVELOPMENT 1980-2000
CONCEPTUAL PARKWAY BELT SYSTEM

MAP No. 4

TORONTO-CENTRED REGION

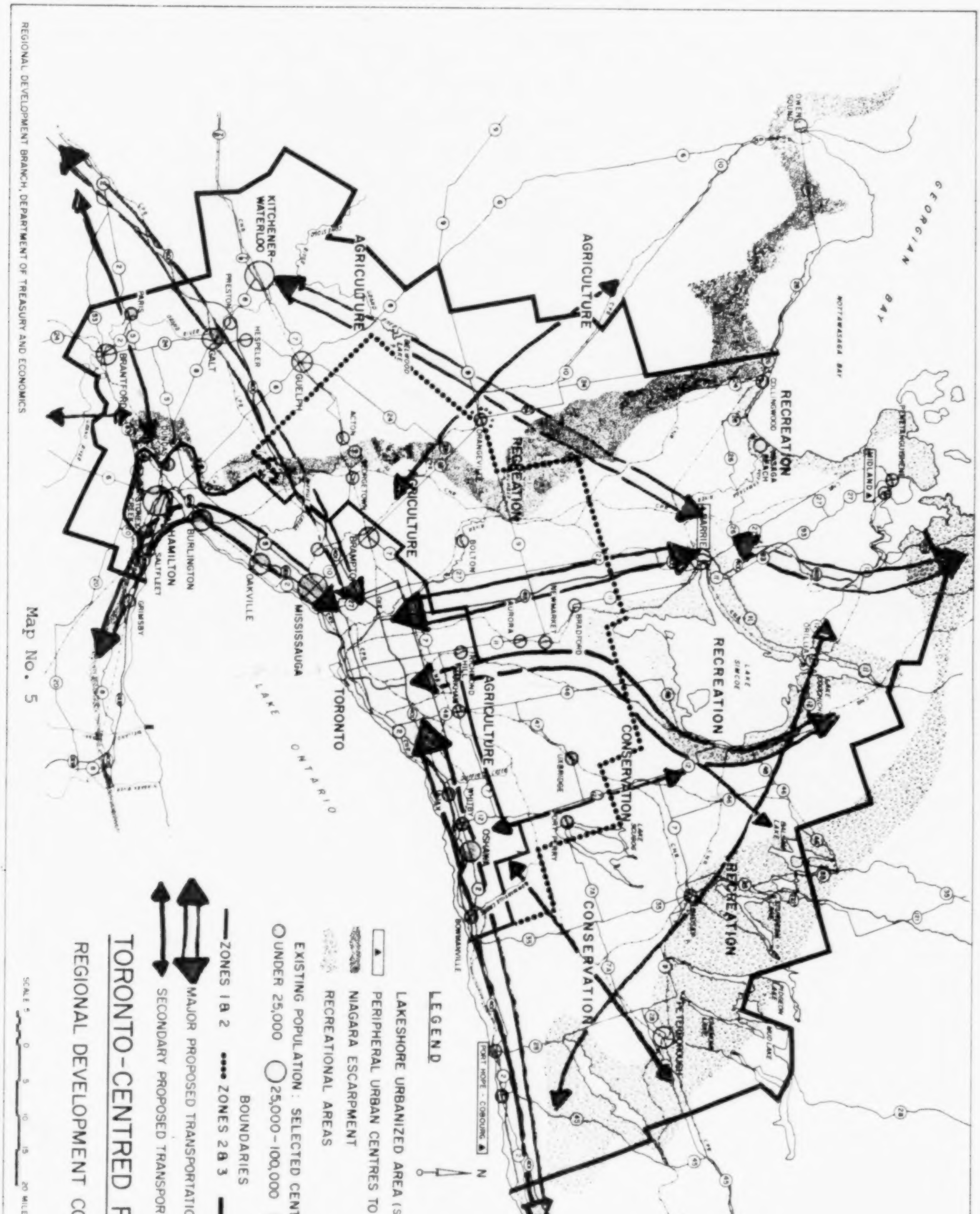
DEVELOPMENT CONCEPT FOR ZONE I

17

SCALE 5 0 5 10 MILES

PLATE 5

REGIONAL DEVELOPMENT BRANCH, DEPARTMENT OF TREASURY AND ECONOMICS



TORONTO-CENTRED REGION
REGIONAL DEVELOPMENT CONCEPT

Map No. 5

REGIONAL DEVELOPMENT BRANCH, DEPARTMENT OF TREASURY AND ECONOMICS

LEGEND
LAKESHORE URBANIZED AREA (SEE PLATE 5)
PERIPHERAL URBAN CENTRES TO BE STIMULATED
NIAGARA ESCARPMENT
RECREATIONAL AREAS
EXISTING POPULATION : SELECTED CENTRES
UNDER 25,000
25,000-100,000
OVER 100,000
BOUNDARIES
ZONES 1 & 2
ZONES 2 & 3
ZONE 3
MAJOR PROPOSED TRANSPORTATION LINKAGES
SECONDARY PROPOSED TRANSPORTATION LINKAGES
N
SCALE
20 MILES
PLATE 4
16
GEORGIAN BAY
NOTTAWASAGA BAY
OWEN SOUND
COLLINGWOOD
WASAGA BEACH
MIDLAND
PENETANGUISHENE
BARRIE
ORILLIA
LAKE SIMCOE
LAKE COUCHICHING
ORANGEVILLE
KITCHENER-WATERLOO
PRESTON
HESPELER
GALT
GUELPH
PARIS
BRANTFORD
ACTON
GEORGETOWN
BRAMPTON
BOLTON
AURORA
NEWMARKET
BRADFORD
UXBRIDGE
WHITBY
OSHAWA
BOWMANVILLE
PORT PERRY
LAKE SCUGOG
PETERBOROUGH
PORT HOPE - COBOURG
HAMILTON
BURLINGTON
SALTFLEET
STONEY CREEK
GRIMSBY
OAKVILLE
MISSISSAUGA
TORONTO
LAKE ONTARIO
AGRICULTURE
AGRICULTURE
AGRICULTURE
AGRICULTURE
RECREATION
RECREATION
RECREATION
RECREATION
CONSERVATION
CONSERVATION

S-5-415

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management of Preferences.

Session Title: "Rookery Bay: Can Conservation and Development Coexist?"

Materials: Map of Rookery Bay, 1970; map of Rookery Bay showing proposed land development (from Quarterly Report to Office of Water Resources, University of Miami, April, 1971); Data on Rookery Bay Project from Naples Daily News and Time.

Descriptor: In Florida, very little effort has been made by developers to conserve land or wildlife. It appears, however, that at last development may include consideration of conservation and ecology near Naples. Will development indeed maintain the necessary safeguards to protect Rookery Bay and other similar natural areas? Will insufficient planning and the desire for quick gains overlook necessary conservation measures? These and related questions will be discussed by participants after analysis of materials on the Rookery Bay Project.

Discussion Leaders: Keith L. Bright (Naples High School, Naples, Florida), Jack R. Lambert (East Naples Middle School, Naples, Florida).

S-5-416

"Rookery Bay: Can Conservation and Development Coexist?"

The dialogue that appears in this paper concerns three individuals. The first two are the more important and they discuss the Rookery Bay situation. Suzie, an eighth grader from New York, is visiting her Uncle George, who is a resident of Tampa, Florida.

The dialogue should be taped. If a tape recorder is not available, the teacher may choose students to play the three parts. Parenthetical references are to the visuals that follow the dialogue. You may project these on a screen or wall by using an opaque projector or an overhead projector.

At the conclusion of the dialogue, there should be time for discussion. You might ask why the dialogue ended as it did. Use student or teacher-made questions such as the following:

1. Will development indeed maintain the necessary safeguards to protect Rookery Bay and other similar natural areas?
2. Can the ecology of a state be conserved with more than 2,000 new residents moving into it each week?
3. Why budget a large sum of money each year to the chambers of commerce for advertising the community or the state if the ecology is already threatened by the population growth?
4. Will the desire for quick gains through shortsighted planning prevent necessary conservation measures being taken by developers?
5. Would you call the Rookery Bay Project a success story? Why or Why not?

Scenario

Suzie: I have been reading in the paper about Rookery Bay. What and where is Rookery Bay, Uncle George?

Uncle George: Rookery Bay, about 5,000 acres big, is a water and mangrove swamp wilderness located near Naples in Collier County, Florida. That's about one hundred to one hundred and fifty miles south of us here in Tampa. It's an estuary where fresh water from the land surface contributes minerals to the life system of the Gulf of Mexico. You know about the food chain of the sea, don't you?

Suzie: You mean minerals are used by tiny plants in the sea and fish eat the plants or other fish. Yes I know that.

Uncle George: Good! Well, because of that, Rookery Bay is an ideal nursery for fish, shellfish, waterfowl, wading birds and shore birds. Brown pelicans, ospreys and bald eagles rear their young there while the manatee and porpoise play in the bay. Notice the pictures in the article you're reading. These show how mangrove islands appear.

Suzie: It's certainly a twisted, tangled mass isn't it?

Uncle George: They certainly are. The islands form around that tangle. The islands are usually covered by water at high tide and sometimes at low tide. Water often flows between the roots. Sand and silt collect around the tangle. Presto! Hundreds of low islands and a salt water swamp.

Suzie: Where do the animals live in this swamp?

Uncle George: The birds build their nests in the trees. Other animals find high enough ground on these islands. And, of course, the fish and other marine life are found in the water. See the Gulf of Mexico on the map of South Florida (Fig. 4)? It's one big aquarium -- Nature's of course.

Now Suzie, you also asked where it is. Look at the map of South Florida. Rookery Bay is south of Naples. See, there it is.

Suzie: How did all of this about Rookery Bay get started?

Uncle George: A major step took place in Naples in the spring of 1964 when the Collier County Conservancy was formed.

Suzie: C.C.C.

Uncle George: Yes, but we call it the Conservancy for short. The main objective of the group was to preserve what it could of the wilderness sections of this area. They were disappearing very rapidly.

The project of immediate concern was Rookery Bay. It has served as a recreational area for years but developers were planning to buy it, build a road into it and sell homesites. If this happened, it would mean the end of an unspoiled estuary that was noted as a fertile breeding ground and nursery for some 70 varieties of sport and commercial fish along with the other wildlife I told you about earlier.

Suzie: How did the Conservancy get the land? Did someone give it to them, or did they have to buy it?

Uncle George: The land was privately-owned and the price of the original 1,600 acres was $300,000.

Suzie: Gosh! For swamp land?

Uncle George: Yes. The Conservancy bought a two and one-half year option on it and then appealed to the people of the county for support.

The appeal was not in vain. Fifteen hundred persons sent in amounts ranging from a few coins to several thousand dollars. The drive was joined by fifteen clubs and organizations in Naples, and the National Audobon Society pledged to match the contributions of the Conservancy dollar for dollar.

Since that time additional land has been acquired. The total area within the sanctuary is now 5,000 acres. The costs have been met by fund-raising campaigns within Naples. Contributions have come from county school children, local citizens, other interested people of various parts of the country and celebrities such as Arthur Godfrey, who gave $50,000. A drive which began in March, 1971 raised $740,614 in two months.

Suzie: Gol-ly. Where there's a will there's a way.

Uncle George: Apparently so. The sanctuary was saved after its purchase in 1966, but the Conservancy knew it could still be seriously damaged by indiscriminate development of an additional 15,000 acres of land in the surrounding area. Hoping that a plan for development could be worked out that would be satisfactory to the conservationists as well as the land owners, the Conservancy appealed to the Conservation Foundation, a national organization in Washington, D.C. The Foundation agreed to help and sent technicians to Rookery Bay in 1967. The Ford Foundation financed the entire project.

Suzie: Wait a minute, Uncle George. You mentioned indiscriminate development or something like that. What does that mean?

Uncle George: Indiscriminate development means dredging, filling in swamps and building without a plan to protect the natural environment. This would destroy both land and marine life in the area. Here! Look at the 1970 Rookery Bay Map (Figure 5).

Suzie: Uncle George, I don't see too many things that I understand about this map.

Uncle George: Yes dear, it is quite complicated at first glance.

Suzie: Uncle George, I think you'll have to explain part of the legend to me. I think I know what water quality means. That is where they check to see if the water is polluted, isn't it?

Uncle George: Right. But the water quality stations also determine the degree of pollution.

Suzie: Does the weather station tell the temperature and speed of the wind?

Uncle George: No, not quite. It does give a continuous record of wind velocity and wind direction to aid in interpreting information about the tides. You must have learned about the effect of wind on water. That's how waves are formed.

Suzie: What do the hydrographic, sediment and trawling stations do?

Uncle George: The hydrographic stations have instruments which produce a continuous record of current direction and velocity, temperature, and amount of water coming in with the tide in terms of depth and salinty.

Suzie: Salinity means the amount of salt in the water doesn't it?

Uncle George: Yes, it does. And you know that much marine life is sensitive to how much or how little salt is in the water.

The sediment traps at the sediment stations determine levels of inorganic and organic material from agricultural and sewage sources. The trawling stations are places where samples of marine life are taken periodically.

Suzie: Boy! The project certainly considered a lot of things.

Uncle George: Sure did.

Suzie: A question, Uncle George: Stopper Creek doesn't look like it's connected to Rookery Bay. Where does the water go?

Uncle George: At high tide the water covers the roots. Remember? Besides the water flows through the mangrove roots.

Suzie: The Conservation Foundation certainly has done a great thing for South Florida.

Uncle George: Yes, but the Conservation Foundation did even more. It posed five basic measures to accomplish the dual objectives of development and conservation. One was a water pollution prevention program to cover Rookery Bay's natural drainage area. Secondly, a system of canals, diversion structures, and stilling basins to stabilize the flow of fresh water into the sanctuary was recommended. Thirdly, planning and development of all or most of the private lands were to be coordinated. Fourthly, approximately 1,100 acres of land were to be converted into many miles of valuable waterfront real estate by the creation of a system of navigable waterways. Finally, cluster, open space and other modern design practices were to be used in the area. These would include housing, business places, marinas, parks, schools, churches, and other community facilities.

Overall, proposal seeks to maintain conditions necessary for animal and plant life which have made Rookery Bay estuary one of the most productive known. Also, the proposal seeks a way for the construction of canals to permit filling of low lands and to allow for the drainage of water so developers could realize economic benefits. See here. Look at this map (Figure 6).

Suzie: Uncle George, does this map in the article have something to do with the proposal?

Uncle George: Yes, let us look at the map for just a moment. First, navigable canals will be dug around Rookery Bay Sanctuary. Also the map shows the proposed roads going into the undeveloped area.

Suzie: How will you get to some of these islands?

Uncle George: By bridge or maybe by ferry.

Suzie: Why are there no roads going to the middle island?

Uncle George: Much of the wildlife, especially bald eagles, would be disturbed by automobile traffic. A sanctuary and a zoo are two different things.

Suzie: Boy, those Foundation people have thought of everything. This looks like a very good plan.

Uncle George: Yes, it seems to be. This plan was presented to local developers and was received favorably. See that quote of Hunter Moss? He is a Miami real estate consultant, president of the Urban Land Institute, one of the developers of Boca Raton, Florida and a planner of the Baltimore Urban Renewal Development. See what he says? Naples was on the

> threshold of a great future. Development of Rookery Bay is not just a dream. It has all the elements for success but it has to be nurtured. The area offers one of the most unique opportunities I have ever seen. However, it must be planned right, and executed right.[1]

End of quote. The proposal also was praised by Norman Herrin, vice-president of the Collier Corporation and chairman of the county's planning and zoning board.

---

1. "Wide Interest in Rookery Bay Plan," Naples Daily News, (May 17, 1968), p. 1.

Also, the Deltona Corporation composed of the primary developers of Marco Island just south of Naples have adopted some of the concepts and ideas of the Rookery Bay Plan. Other development plans which have adopted these concepts and ideas are those for Black Island (south of Fort Myers Beach) and Vanderbilt Beach in North Naples.

Suzie: Yes, Uncle George, I've read stories about the rapid growth of Florida and the large sums of money being invested in land.

Uncle George: This is very true. The Florida land development industry is more prosperous than ever before. Many fly-by-night developers are gone and in their place are bigger and "better heeled" operators. Walt Disney, for example, spent about $5 million for 27,000 acres near Orlando. The Pennsylvania Railroad paid $18.3 million for a 51% interest in Arvida Corporation, which is a large land development company. The Westinghouse Electric Corporation spent $65 million for Coral Ridge Properties, Inc. Gulf-American Corporation has for some time been Florida's largest single land development company. Its land sales in 1967 amounted to 281 million dollars. These are only some of the large Florida developers.

Of course, there have been some problems. Gulf American Corporation has been accused of improper sales practices. Suit has been filed by the state against three developers who are presently draining pine and cypress swamps along the northern border of Everglades National Park. The suit claims that such work interrupts the natural flow of water through the wilderness area and upsets food chains. This kind of activity contributed to the twelve month draught that in 1971 turned much of southern Florida into a tinderbox of raging fire and smoke-filled skies.

Suzie: Yes. That must have been terrible. I remember pictures of it on television back home.

Uncle George: Well, I think you have the idea. Men are not always angels. One huge coastal development near Naples recently removed a natural mangrove-lined shore in favor of concrete sea walls. A spokesman for the builders was asked to set aside a refuge for that area's few remaining eagles. The man replied: "It's all been sold. You can buy it back for $250,000."[2]

Suzie: With all this going on, can there be conservation of the natural environment at all?

---

[2] Time 97 (June 28, 1971), p. 52.

Uncle George: That's the question. It's hard to answer. Even when the builders attempt to protect the environment they upset natural habitats because of the very size of their developments. When canals honeycomb densely populated areas there is always danger of pollution and sometimes salt water intrusion.

Suzie: It seems to me that the government would do something to save the natural environment.

Uncle George: Sometimes the government will try to help save the natural environment. Often, however, governments move too slowly and sometimes even they help to destroy the environment.

The Army Corps of Engineers since 1949 has created 1,400 miles of canals in the Everglades regularly diverting billions of gallons of water into the Atlantic Ocean. Available water was used to irrigate crops while thousands of fish, birds and animals died in the Everglades National Park in droughts of the 1960's and 1971.

Conservationists have been responsible for halting the construction of the Cross-Florida Barge Canal which was under supervision of the Army Corps of Engineers. Conservationists believe the canal is draining a regional life-system, destroying the Oklawaha River and will possibly disrupt Florida's underground waters. State officials and Army engineers deny this.

The Dade County Port Authority had made plans to construct a huge jetport six miles from the northern border of Everglades National Park. Because of efforts of conservationists, Transportation Secretary Volpe and former Secretary of the Interior Hickle, construction was halted in 1969 and a study was made by a team of the U. S. Geological Survey. Its report indicated that the jet training port would cause progressive damage to the park and the passenger jetport would cause irreversable damage.

Public officials are continuing to study the overall implications of plans and suggestions made by conservationists and developers concerning the jet port, the cross-barge canal and private land development as well as the smaller project at Rookery Bay. As one Collier County Commissioner stated regarding Rookery Bay: "We are vitally interested but we have to take a broad view of the overall effect."[3]

Suzie: I think I'm getting confused. Earlier in our discussion I thought things were looking good for Florida and Rookery Bay but now I'm not sure.

---

[3] "Wide Interest in Rookery Bay Plan," Naples Daily News, (May 17, 1968), P. 1.

Uncle George: Suzie, that's what makes environmental quality an issue. South of Florida in the Caribbean Sea, the Conservation Foundation made a study of Dominica and made recommendations. However, the people of Dominica seem to be less interested in conservation and more interested in development than their more affluent neighbors to the North. Can we tell Dominicans what we think best for them?

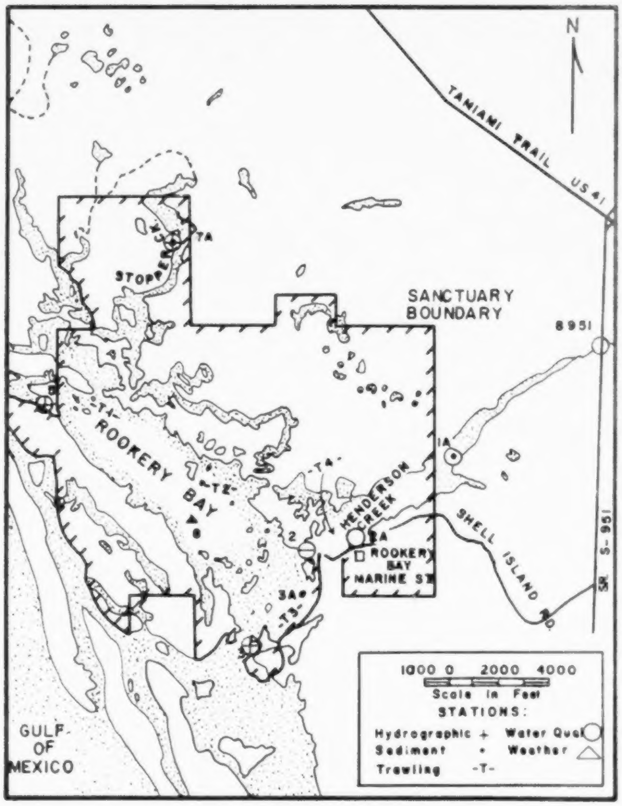
Aunt Hilda: George! Suzie! It's time to eat.

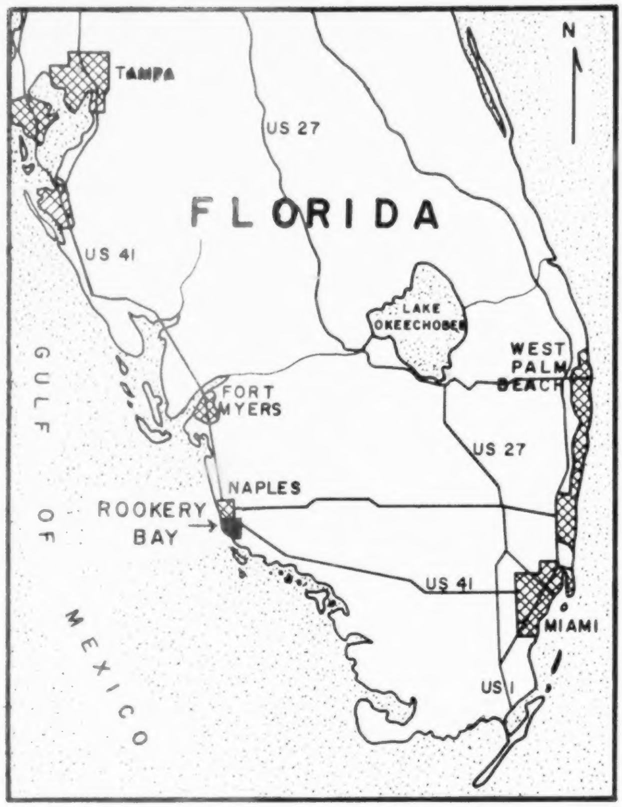
Suzie: I'm not hungry.

Plate 1

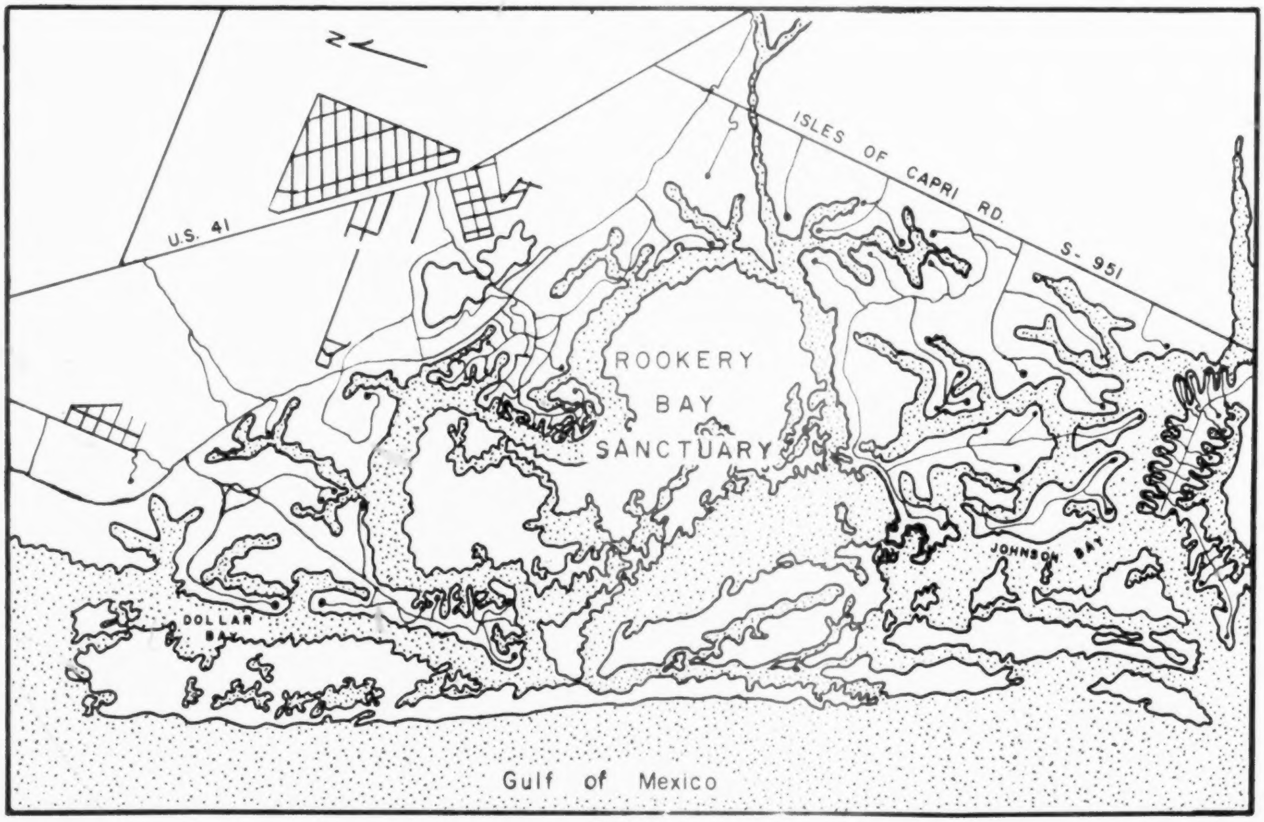
Plate 2

Plate 3


N
TAMIAMI TRAIL US 41
STOPPER CREEK
TA
SANCTUARY BOUNDARY
S 951
ROOKERY BAY
-T1-
-T2-
-TA-
4
1A
2
2A
3A
-T3-
HENDERSON CREEK
ROOKERY BAY MARINE ST
SHELL ISLAND RD
SR S-951
GULF OF MEXICO
1000 0 2000 4000
Scale in Feet
STATIONS:
Hydrographic +
Water Qual ○
Sediment •
Weather △
Trawling -T-


N
TAMPA
US 27
FLORIDA
US 41
LAKE OKEECHOBEE
WEST PALM BEACH
GULF OF MEXICO
FORT MYERS
US 27
NAPLES
ROOKERY BAY
US 41
MIAMI
US 1

Map Reference: Courtesy of B.J. Yokel, U. of Miami


N
U.S. 41
ISLES OF CAPRI RD.
S-951
ROOKERY BAY SANCTUARY
JOHNSON BAY
DOLLAR BAY
Gulf of Mexico

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management of Preferences.

Title: "Of Course There's No Pollution Here!: Student's Evaluation of the Local Environment."

Descriptor: What are some specific environmental problems teachers can deal with in the elementary grades? This session will provide answers to this question and will demonstrate action-oriented techniques through which children will be able to measure the quality of their local environments.

Discussion Leader: Dr. David Brenchley, Assistant Professor of Environmental Engineering, Purdue University, Lafayette, Indiana, 47907.

* * * * *

"OF COURSE THERE'S NO POLLUTION HERE!: STUDENT'S EVALUATION OF THE LOCAL ENVIRONMENT."

These environmental activities have been designed for students in the junior high to secondary school range. Each has been field-tested; and none require substantial amounts of time, money, or materials. In fact, each has been designed to use dime store or drug store supplies and the type of equipment which would be found in the average home or school. The major responsibility for the teacher involves reading the background information, directing the activity, and helping the class to progress to whatever additional activities they choose to do from the suggested list.

Copyright (c) 1971 by David L. Brenchley and
John O. Towler. All rights reserved. No
part of this publication may be reproduced
in any form without prior written permission
of the authors.

IS THE AIR YOU BREATHE CLEAN?

OBJECTIVE: 1) To learn that there is dirt suspended in the air we breathe. 2) To understand that the type and amount of suspended dirt is a function of geographic location and the weather.

BACKGROUND: Particulate matter is present in the atmosphere due to natural and man-made activities. Our respiratory system must remove this before the air goes into our lungs. The hairs in our nose act as a filter to do just this. If this dirt were not removed it could irritate our respiratory system and be injurious to our health.

The amount and type of particulate matter in the atmosphere is affected by the weather. Snow and rain are nature's method of cleaning the particulate matter from the air. Under rather warm and clear conditions the particulate pollution tends to build-up in urban areas and become worse.

ACTIVITY: Use a vacuum cleaner and a piece of filter paper to collect suspended matter from the atmosphere.

RESOURCES NEEDED:

(1) Portable canister-type vacuum cleaner with hose. If possible, remove bag from cleaner.

(2) Two small juice cans with ends cut out. Diameter should be the same as the vacuum cleaner hose.

(3) One piece of window screen the same diameter as the juice cans.

(4) Several pieces of white filter paper cut the same diameter as the juice cans. The white type paper used to make filtered coffee works well. Also a Whatman number one paper which can be obtained at the drug store can be used.

(5) Roll of electricians plastic tape.

PREPARATION:

(1) Look at the assembly shown in Figure 1.

(2) Place the piece of screen on one end of one of the juice cans.

(3) Gently place a piece of filter paper on the screen. The screen acts as a support for the filter paper during sampling.

(4) Carefully place the second juice can on top of the filter.

(5) Press the two cans together and use the plastic tape to make an air tight seal. If necessary use additional tape to make sure that the two cans are adequately taped together.

(6) Carefully place the open end of the first can over the hose on the vacuum cleaner and secure tightly in place with the plastic tape. Be sure that there are no cracks or holes at this joint. Be careful not to put the can too far over the hose or you may knock the screen and filter out of place.

(7) Find a place to set your sampler. Sampler should be protected from rain. A covered porch works nicely.

PROCEDURE:

(1) Plug in vacuum cleaner and run sampler for 12 to 24 hours. You should check vacuum cleaner occasionally to make sure that motor does not seem to be getting too warm. You should not have any trouble but this is a precaution so as not to ruin the vacuum cleaner.

(2) Care must be taken during sampling to assure that filter does not get wet. This would cause filter to plug and ruin the test.

RESULTS: Compare the sample filter paper with one of the unused pieces. Is there a difference? If so what is it and what caused it? Is there color change? What may have caused them? If you sample in the country it is likely to be light brown in color due to dust. In the city or urban area it may be light gray or black. These colors are caused by the smoke from combustion processes used in automobiles, trucks, buses, factories, homes, schools, and incinerators. What would happen to this dirt if it entered your respiratory system?

ADDITIONAL ACTIVITIES:

(1) Will the filters look the same during all types of weather conditions? Run additional tests at the same location and same length of sampling time. Compare the filters for tests under rain, snow, windy day and warm weather conditions.

(2) Will the filters look the same for city and country samples?

(3) How does the air in your classroom compare with the air outside?

(4) Do you think that the air in a factory would be dirtier than that outside? What could you do to find out?

(5) What happens to the smoke that goes into the air? Use the sampler to collect the smoke from about 6 to 12 cigarettes. Try collecting smoke from a large burning candle.

(6) How does your respiratory system remove particulate matter from the air? What happens to it? Have a person from the Tuberculosis and Respiratory Disease Association talk to your class about this.

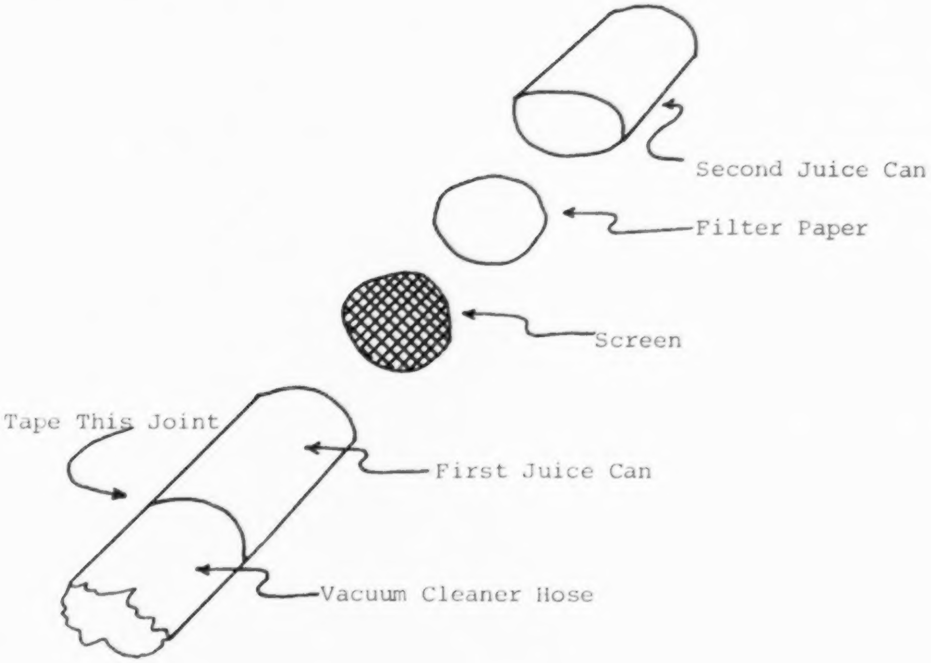

Second Juice Can
Filter Paper
Screen
Tape This Joint
First Juice Can
Vacuum Cleaner Hose

Figure 1. Filter Holder Device for Sampling Air.

IS THERE NOISE POLLUTION IN YOUR COMMUNITY?

OBJECTIVES: (1) To determine the types and number of noise sources in your community. (2) To understand that exposure to noise may impair your hearing.

BACKGROUND: Noise is unwanted sound. It is found in every community. It has long been known that noise damages your hearing and more recently doctors have found that it affects the heart and blood vessels. Noise has two important physical characteristics: frequency and pressure. Frequency is a quality of noise which makes it a bang, clang, whistle or a screech. A base drum has a low frequency but a whistle has a high one. Sound pressure is measured in units called decibels. Decibels are not linear units. For instance, 80 dB is really tenfold greater than 70 dB.

Noise is an increasing problem in our large cities. Due to mechanization, the noise level is increasing at 1 dB per year. Thus, overall noise levels are doubling every ten years. If this is not stopped, urban populations will be faced with increased hearing losses. At the present time continuous exposure to noise levels greater than 85 dB are definitely detrimental to health. Table 1 gives the noise intensity of various sources. Even people who do not live in cities still may have a hearing loss due to their work. For instance, the farmer may be affected by his noisy tractor and other equipment.

Table 1

NOISE -- SOURCES & INTENSITY

Source	Intensity, dB	Description
Threshold of Hearing	0	Audible
Rustle of Leaves	10	
Broadcasting Studio	20	Very Quiet
Whisper @ 15 feet	30	
Library	35	Quiet
Living Room	45	
Light Auto Traffic @ 100 feet	50	
Air Conditioning Unit @ 25 feet	60	Moderately Loud
Normal Conversation	60	
Quiet Office (No Business Machines)	65	
TV - Audio	70	
Vacuum Cleaner	70	
Normal Auto Traffic (100 cars/min)	72	
Cabin Noise (in jet)	75	

Table 1 (cont'd.)

Source	Intensity, dB	Description
Auto, 65 mph @ 25 feet	77	Very Loud
Clothes Washer	78	
Garbage Disposal Unit	80	
Diesel Truck, 40 mph @ 50 feet	84	
Inside Train	85	
Motorcycle @ 25 feet	90	
Power Mower	96	
Newspaper Press	97	
Farm Tractor	98	
Jet Passing Over @ 1,000 feet	103	Uncomfortably Loud
Textile Loom	106	
Last Seat in Jet Liner	110	
Rock & Roll Band	110 - 120	
Mining & Drilling Operations	120	
Threshold of Pain	120	
Armored Personnel Carrier	123	
Pneumatic Riveter	130	

STATEMENT OF THE PROBLEM: Take field trip into community and observe the noise sources and decibel levels.

RESOURCES NEEDED:

(1) City map.

(2) Bulletin board.

(3) Marking Pencil.

PREPARATION: None.

DATA SHEET:

Table 2

NOISE SOURCES IN COMMUNITY

Observed Source	Location of Source	Approximate Decibel Level	Continuous or Intermittent?

PROCEDURE:

(1) Go on a field trip in the community.

(2) Listen for sound sources from factories, trucks, buses and airplanes.

(3) Record your observations on the data sheet. Estimate the sound levels by using the data in Table 1.

(4) Put map on bulletin board and locate noise sources on it.

RESULTS: Are there any high level noise sources in your community? Are there many noise sources close to the residential areas of the town? Based upon your findings, should people in your town be more concerned about noise?

ADDITIONAL ACTIVITIES:

(1) Could you have a health department official, school or the nurse come explain to you how noise causes hearing loss?

(2) Are there any laws or regulations pertaining to noise levels in your community?

(3) Can noise be controlled? Why not ask an engineer from a local company come talk to your class about this?

HOW ARE SAND FILTERS USED TO TREAT WATER?

OBJECTIVE: To learn how a filter made of sand can be used to help purify water.

BACKGROUND: Filtration is an important part of the water treatment process. Suspended particles in the water, which may cause it to be turbid and have a taste and odor, must be removed. Often special chemicals are used to cause these small particles to grow in size (coagulate) so that they may be removed more easily. These larger particles can be removed by allowing them to settle to the bottom or by filtering the water. A sand filter is a device frequently used by municipal water treatment plants to do just this. The filter consists of a tank filled with sand. As the water passes through it the particles collect on the sand. The water flows through either by gravity or it is forced through by pressure. In a water treatment plant many such filters are used. One may be cleaned while the others are in use. The filter is cleaned by backwashing. This means that for a very short period of time water is forced backwards through the filter and then particulate matter collected on the filter is washed off. Water used in the backwashing process can be sent to the sewage treatment plant.

ACTIVITY: Build a laboratory model of a sand filter and test its ability to remove particles from water.

RESOURCES NEEDED:

(1) Bottle of clay silt or diatomaceous earth.

(2) Bottle of alum (aluminum sulfate). Available at drug store.

(3) Box of baking soda (sodium bicarbonate).

(4) Set of measuring spoons.

(5) Two clean waste paper baskets.

(6) A two pound coffee can.

(7) One large mixing spoon.

(8) Five one pint clear glass jars.

(9) One 5 inch funnel.

(10) About three feet of plastic tubing. This is available at a hobby store.

(11) A hose clamp.

(12) Roll of Tape.

(13) Marking Pencil.

(14) Clean sand.

(15) Nail and hammer.

(16) A five inch diameter piece of fine mesh screen.

PREPARATION: Construct the sand filter as shown in Figure 2. The bottom of the coffee can should have many holes punched in it with a nail. Tape the funnel on the bottom of the can. Place the screen in the bottom of the can and then fill a little more than half full with sand.

PROCEDURE:

(1) Put two gallons of tap water in a waste basket.

(2) Add three tablespoons of clay silt or diatomaceous earth to the water and stir.

(3) Obtain samples of the tap water and this mixture. Label them samples 1 and 2 respectively.

(4) Filter some of this silt mixture and collect a sample from the bottom of the unit. Label this sample 3.

(5) Now add a tablespoon of baking soda and a tablespoon of alum to the silt mixture. Stir gently for a period of about 5 minutes. Obtain a sample of this in a pint jar and label sample 4.

(6) Now filter some of the coagulated mixture and collect a sample from the bottom of the unit. Label this sample 5.

(7) Compare visually the samples and record observations in Table 3.

RESULTS: Can you see visually how effective the filter was in removing suspended material? Did the chemicals added seem to improve the clarification of the water? Would the silt settle out of sample #2 if left to stand for a long period of time? Why would you use a filter instead of just waiting for the suspended matter to settle out?

ADDITIONAL ACTIVITIES:

(1) Does your community have a water treatment plant? If so, does it use a filter such as the one you used?

(2) Does nature purify water when it percolates through the soil?

(3) Can you build a device to measure quantitatively this turbidity of water? Would a light source and photocell arrangement work? How would you calibrate it?

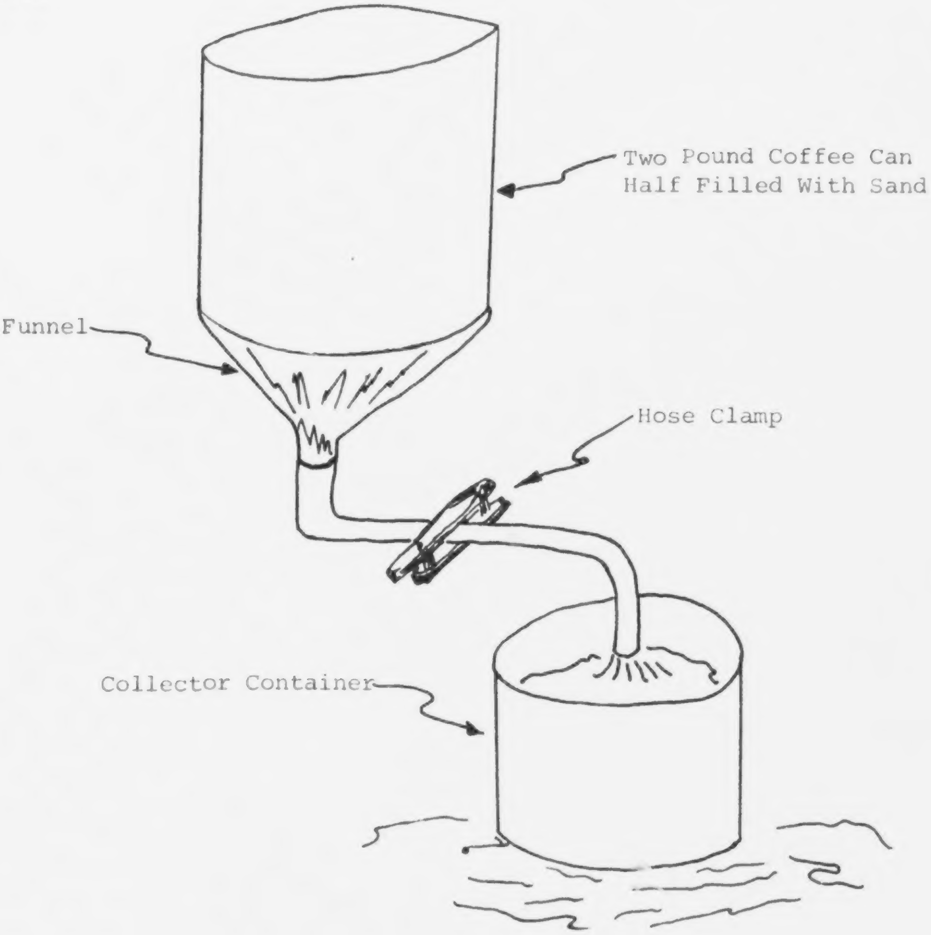

Two Pound Coffee Can
Half Filled With Sand
Funnel
Hose Clamp
Collector Container

Figure 2. Sand Filter for Purifying Water.

DATA SHEET:

Table 3

FILTERING WATER WITH SAND FILTER

Sample Number	Sample Description	Treatment of Sample	Observed Turbidity
1	Tap Water	None	
2	Tap Water with Silt Added	None	
3	Tap Water with Silt Added	Filtered	
4	Tap Water with Silt and Coagulation Chemicals Added	None	
5	Tap Water with Silt and Coagulation Chemicals Added	Filtered	

S-5-435

Issue: Political Power: The Games People Play.

Topic: Environmental Quality: Management of Preferences.

Title: "What is All This Dam Foolishness?"

Descriptor: This is a simulation centered around the proposed construction of a dam. The student is introduced to conflicts that may evolve between groups with differing goals. The issues will be debated between the various interest groups and culminate in a special hearing.

Discussion Leader: Erwin Bill, Lincoln Junior High School, Skokie, Illinois.

* * * * *

"WHAT IS ALL THIS DAM FOOLISHNESS?"

In the operation of this simulation, certain background information is necessary. Some follows in the form of newspaper articles, roles, research reports, and maps. Additional information will be supplied when necessary during the activity.

The following articles are from the Boonesville Banner, a local paper.

IRRIGATION DOES PAY

The irrigated acreage of field corn is increasing and will probably continue to do so, but at a slow rate. Data from Iowa, Indiana, South Carolina, Georgia, etc. reveal that irrigation of field corn can be economically feasible, but the margin of profit is small. Also, irrigation must be combined with other good production practices such as adequate fertilization and high plant population levels. If irrigation equipment is purchased just to irrigate corn, the returns will be small, however, if the fixed costs can be spread to other crops, corn irrigation becomes more attractive.

CROP YIELD INCREASE DUE TO IRRIGATION IN POLK COUNTY, NEBRASKA, 1968.

	Non-Irrigated	Irrigated	Increase
Field Corn (Yield by/acre shelled corn)	45	120	75
Alfalfa Hay (Yield tons per acre dry matter)	2	4.5	2.5
Soybeans	15.6	38.9	23.3

S-5-436

AMERICA'S LAND BOOM

Land is a prime buy. Year after year surveys of growth items spotlight the rise in value of a small group of steady owners: old paintings, rare books and manuscripts, and antique furnishings. Invariably, however, such surveys end by pointing out that land prices equal or top the rise in all other speculative investments.

The simplest and most obvious reason for this is that the quantity of land is fixed while the population grows and grows. Using current population projections, it appears likely that during the twentieth century the number of people in the United States occupying the same numbers of square miles will have tripled.

DEAR SIR:

As spokesman for the Arby County Highway Commission, I and my fellow associates are incensed at the proposal to construct a dam on the Rapid River. The state, after much debate, has allocated $65 million dollars to build this road.

To build the road across the dam would cost an additional $25 million dollars. The possibility of the state appropriating any extra funds is extremely unlikely.

Highway 65 is of extreme importance to the citizens of Arby County because it is needed to handle increasing traffic congestion. Farmers need this road to haul their grain. New industry will consider relocating here because it will be easier to bring in the raw materials they need and to ship out the finished product.

The citizens of Arby County need this road. Please do not deprive them of it.

D. Sturm

WORK SLOWDOWN THREATENED

In an exclusive interview yesterday with Mr. Paul White, manager of the Arby Coal-Burning Electrical Power Company, it was learned that the employees of the power plant are threatening a work slowdown if the dam is built. If their threat is carried out, there will be a serious curtailment of electrical power in Arby County, which will affect homes and businesses alike.

Mr. White also pointed out that, if the dam is built, his company will be unable to compete with the cheaper hydroelectric power that will be generated by the Arby Power Company. As a result he will have to lay off fifty workers, thus adding to the serious unemployment problem in Arby County.

LIST OF ROLES

Otto Schulz, Farmer

You are in favor of the proposed dam. In recent years the market price for most farm products and livestock has declined, necessitating that farmers consolidate holdings, increasing the acreage under cultivation, and adding to herd size. The big farm can become more efficient because of the scale of its operation.

You see the construction of the Arby Dam as your chance of increasing your land holding for grazing and increasing the size of your herd of cattle. The dam would give you a cheap source of water to support your herd, besides the water needed to irrigate the grazing land. You also have a good percentage of your land in spring wheat.

Therefore, you will join the coalition seeking the construction of Arby Dam.

Philip Scully, State Highway Spokesman

You represent the State Highway Department interests. As spokesman for this group you are very much opposed to the building of the dam for you were intending to put a new highway across the same area where the reservoir will be located.

The State Department of Public Works has allocated just enough money to build the road and there is not enough money provided in the budget to detour around the reservoir.

You are also concerned that if the proponents of the dam get their way this time, it might start a precedent in the state and hamper other road building programs.

A third reason why you are against the dam being built is a personal one. For many years you have been an avid fisherman, and have spent many happy hours on the banks of the Rapid River. In the last year or two you have read numerous articles about dams destroying fish of various types. You are quite concerned about what might happen to fishing on the Rapid River if the dam is constructed.

Richard Miles, Member of the Northern Council of Anglers Unlimited

You are a retired biologist residing in Arby County because of its excellent fishing. Since retirement you spend most of your leisure time fishing. In fact, you organized and are now president of the Northern Council of Anglers Unlimited, an organization promoting the sport of fishing.

You worry about what the dam will do to the fish in the Rapid River. You realize that there could be danger of nitrogen supersaturation to Rapid River fish if the dam is constructed. You are organizing a campaign around this issue. You are positive that there will be no decent fishing in five years if the dam is built.

S-5-438

Raymond Jonson, Farmer

You live south of the proposed Arby Dam with your small family. You have experienced some economic difficulties in recent years.

Most of your half section is planted in hybrid corn, which demands large quantities of water, with the heaviest demand during the early growing period.

However, Arby County usually is deficient in rainfall. Many of your neighbors have had to abandon their lands because the level of underground water was so low that the cost of pumping water for land irrigation became ruinous. Cheap and abundant irrigation water, generated at a multiple-purpose dam, would greatly cut costs and increase crop yields.

You have decided to attend the public hearing concerning the construction of Arby Dam.

Paul White, Manager of the Coal Burning Electric Plant

You are 39 years old, married, the father of three children and live on the outskirts of Boomsville. You represent the coal burning electrical plant which is currently supplying Boomsville with its electrical power. The coal burning hierarchy realizes that if the dam is constructed, they will be put out of business because their rates will be higher than the Arby Power Authority. Needless to say, they are very much against the construction of the dam.

You point out that it will be at least thirty years before the coal burning electrical plant will reach its full capacity. In addition, you state that the capacity of the plant could be increased by that time.

You also point out that if the dam is built the property owners will be paying higher property taxes than they are now paying because the Federal Government is only paying 80 per cent of the cost. The small savings that will result from cheaper electrical power will not effect their higher property taxes, he believes.

The nature of your role allies you with Mr. Scully of the Highway Department.

Robert Milton, President of the Taxpayers League of Boomsville

The league is made up of concerned citizens from all walks of life in the community. Basically, your group has two major objectives. The first, and perhaps the most important, is that of distributing information regarding the tax structure of Boomsville and informing the citizens of the affect additional taxes would have on them. The second objective promoted by the league is to act as a "watchdog" over the funds incorporated in the city's ever increasing budget. In other words, the league is concerned that there is no waste of city monies.

In the past your organization has been far from negative regarding tax increases if you feel the funds are justified. Your group has come out against the construction of the dam on the Rapid River. As spokesman for the BTL you will argue that this project will place too big a burden on the taxpayers. You feel that this tax increase might force the citizens of Boomsville to withdraw their support from more necessary projects, such as, street and road repair after a hard winter, additions to the public library and a new municipal swimming pool that can be forseen in the very near future. The proposed new assessment might well lead to a "taxpayers revolt" so prevalent in other areas of the State, but thus far avoided by the city of Boomsville.

Fred Land, Land Speculator

You have been involved in the buying and selling of land for a profit and are strongly in favor of building the dam because of confidence in land value increases due to the recreational possibilities of the dam and reservoir.

At the present time you own a 200 acre tract that lies very close to where the reservoir will be if the dam is built, which you purchased a number of years ago at $100 an acre. At the present time you estimate the value of the land at about $200 an acre and calculate the value of the land will increase to approximately $1500 an acre if the dam is built.

You also own other smaller scattered lots in the city of Boomsville and feel sure that this land will also increase in value as new industry and people are attracted to Boomsville.

William Lawton, Member of the Hearing Board, Representative of the City of Boomsville

You have been selected by the mayor to serve on the hearing board to represent the interests of Boomsville regarding the building of the proposed dam on the Rapid River. You are a retired department store executive and a respected member of the community having served on several boards and commissions.

Your children and grandchildren live in Boomsville and you are interested in the city's continued growth. Although you have positive feelings about the proposed dam, your past experience of serving on various community committees has taught you to keep an open mind regarding any proposal that affects the entire community.

You will listen to the evidence closely, ask questions of the various group presentors, analyze the recorded testimony and cast your vote regarding the construction of the dam with the view that seems most beneficial for the city and its citizens as a whole.

Dr. Leonard Wilson, President of the State University, Hearing Board Chairman

You have been asked to serve as chairman of a joint city-county committee as a neutral party. Your task will be to conduct the hearing on the proposed dam project on the Rapid River. You must evaluate all the evidence presented, make sure that all parties have a chance to speak their views, keep order during the proceedings and, on the basis of the evidence, come to a decision regarding the building of the dam.

You are honored to have been asked to serve in this capacity but you are also aware that your vote will affect the lives of many citizens in this part of the state. You must be able to understand all the presentations and be able to clarify and summarize the points made by the various groups in their presentations.

Ted Wise, Member of the Hearing Board, Representative of the County Board of Commissioners

You are currently a member of the county board of commissioners. Your fellow board members have selected you to represent the county interest on the hearing board. You have lived in the county all of your life. Although your father was a farmer, you have not taken up farming as an occupation, choosing instead to follow a career in law. Your practice is state-wide although your permanent home is in a rural town some five miles southeast of Boomsville. Your brother has taken over the family farm so you still have an interest in farm matters. You have served on the county board for ten years and have two years to run on your present term.

Your fellow board members selected you to represent the county because of your insight into rural problems, your familiarity with legal matters such as property claims and land values, and your ability to weigh both sides of a proposal with the end result being a vote for what is best for all concerned.

You will listen to the evidence closely, ask questions of the various group presentors, analyze the various arguments and data, and cast your vote regarding the construction of the dam on the Rapid River.

William Roberts, Representative of the Army Corps of Engineers

You are the spokesman for the Army Corps of Engineers. You have worked for the Corps of Engineers for ten years. During this period the Corps has received both praise and criticism for the projects in which they have been engaged. Since early in our country's history, the Corps of Engineers have worked to improve harbors and waterways, built dams and canals, and taken part in nationwide flood control projects.

During the last decade the issue of ecology has become of major concern in your department. In an effort to overcome conflicts in this area, the Corps of Engineers has endeavored to get the citizens more involved in the planning required in their projects.

Your organization has just completed a two year study that was requested by a group of concerned citizens on the feasibility of constructing a dam on the Rapid River. Your role will involve presenting to the citizens of Arby County some of the important facts that your study has revealed. You must also present the citizens with an environmental impact statement regarding the proposed dam. This statement should mention any adverse environmental effects which cannot be avoided should the project be implemented, alternatives to the proposed action, the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity and any irreversible and irretrievable commitments of resources which would be involved in the proposed construction of the dam. You will be provided with a fact sheet on the proposed dam and an environmental impact statement to help you fulfill your role. You should study this information in order to be prepared to answer questions of local citizens and also make a presentation to the hearing board. Information pertaining to the environment can be presented to the press during the course of the game or through meetings with various citizen groups before your formal presentation before the hearing board. The information you have gathered will have an important bearing on the feelings of the citizens regarding the issue of constructing the dam on the Rapid River.

FACT SHEET ARBY DAM PROJECT STUDY

William Roberts: Chief Engineer, Representative Army Corps of Engineers.
Type of Dam: Arch Gravity Dam with Earth Fill Embankments.
Cost: Estimated total cost twenty million dollars.
Cost assumed by the Federal Government, sixteen million dollars.
Cost assumed by the citizens of Arby County, four million dollars.
Time for Construction: Estimated time for completion is four years pending approval of funds by Congress..
What the Dam will Provide: The Arby Dam will be a multiple purpose facility. It will provide industrial water, hydroelectric power, a means for flood control, irrigation water and recreation areas.*
Number of Workers Needed: Estimated number of workers needed at peak period of construction is fifteen hundred. Sixty percent of the above mentioned labor force to come from local area, about nine hundred people.

* Types of Recreational Facilities Proposed:
- Swimming areas
- Picnic and Hiking Areas
- Fishing
- Boat launching ramps
- Camping areas for tents and trailers

S-5-442

ENVIRONMENTAL IMPACT STATEMENT

The project study has made simple surveys of the rock structure and have found them capable of supporting the proposed dam.

In locating the reservoir, consideration has been given to creating the reservoir with the smallest area of evaporating surface possible for the storage capacity.

Consideration has also been given to the problem of possible faulting and fractured foundation rock, as well as porous rock out-crops that would lead to leaking. The Corps feels this factor will not be a problem in the Arby Project.

It should be mentioned that much of the materials needed for the construction of the proposed dam are close at hand in areas in or near Arby County. This will minimize the cost of importing materials long distances. It will also lower the amount of damage to roads that can occur by movements of heavy machinery and loaded truck traffic over them.

The Corps has attempted to avoid the situation of excessive flooding of land valuable for other purposes than water regulation where ever possible.

It is noted that the proposed reservoir will of necessity flood out a wildlife preserve. This important area will be relocated at a new location adjoining the reservoir. This procedure has been followed in other projects with great success and the plans for relocating this wildlife preserve should be achieved with a minimum of difficulty and cost.

The proposed Arby Dam will have three sluices or passages for water with a valve for stopping or regulating the flow of water. Two of these passages will allow fish to pass through without any harm.

To further protect the fish, a control will be added that will make it possible to regulate water temperatures in the hot summer periods when the water in the river becomes overly warm. In the past this has led to large fish kills. The control on the dam will make it possible to pump in cooler water during these hot periods thus improving the habitat of this species of wild life and enhance the recreational prospects of local sports fishermen.

Upon completion, the Arby Dam will have a life expectancy of 75 years. The problem of inflowing sediment, which naturally reduces reservoir storage capacity, should not become a serious problem for a number of decades. It is further anticipated that when the problem of sediment removal becomes necessary, new and less expensive methods will have been devised than those currently in use.

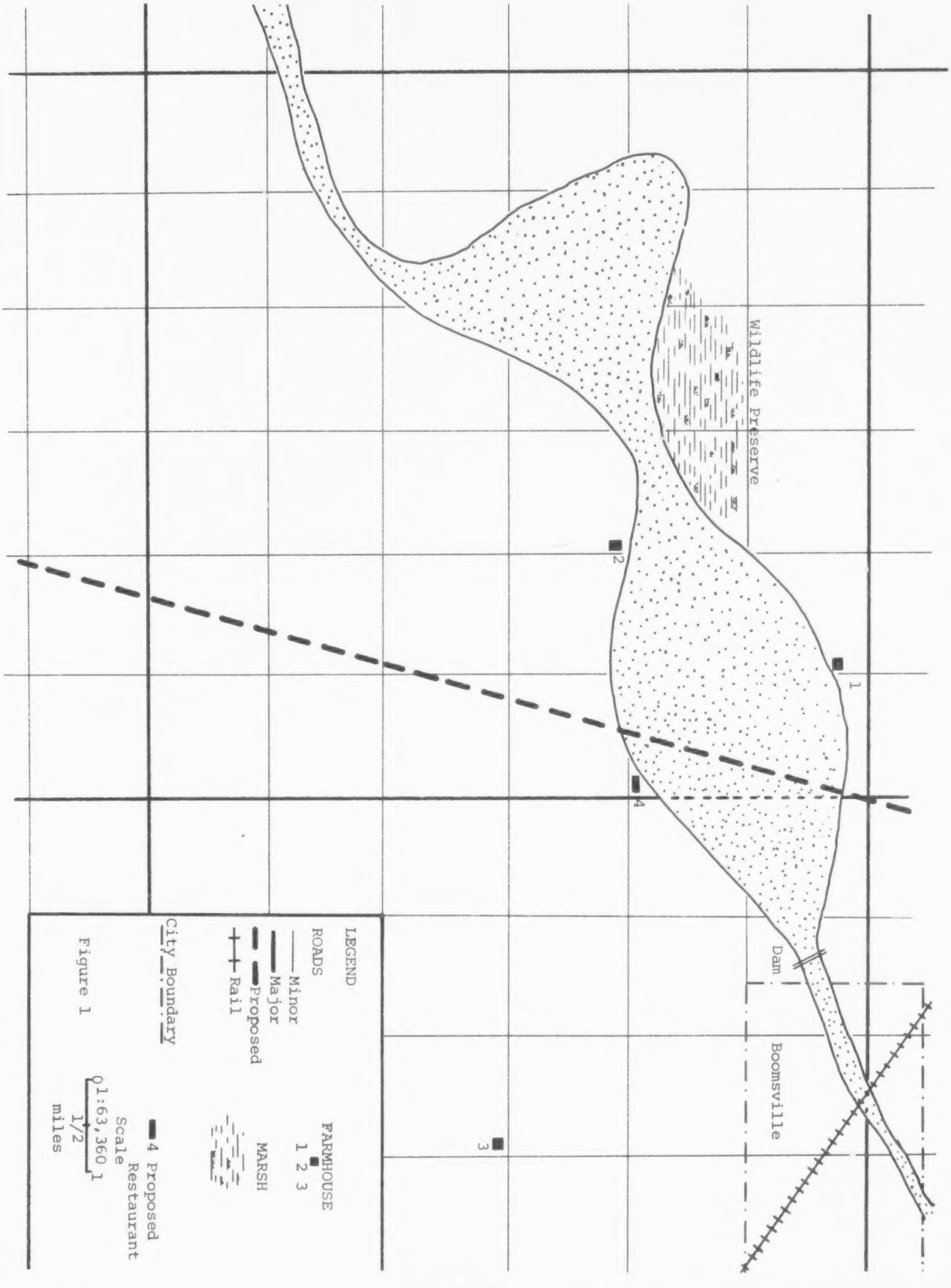

Wildlife Preserve
Dam
Boomsville
1
2
3
4
LEGEND
ROADS
Minor
Major
Proposed
Rail
City Boundary
FARMHOUSE
1 2 3
MARSH
4 Proposed Restaurant
Scale
1:63,360
0
1/2
1
miles

Figure 1

S-6-444

Issue:	Political Power: The Games People Play.
Topic:	Responsive Government: Who Decides?
Title:	"Save the River: Speed or Leisure?"
Descriptor:	With increasing awareness of the environmental quality of our recreation areas, conflict has resulted between technology and use of the environment. The political process in deciding environmental issues is an important understanding for students. Participants will receive roles in which they are members of a political party attending the county convention to consider an important issue - the development of a new limited-access highway through a recreation area in the county. Following this role-playing activity, the participants will discuss the viability and usefulness of the experience in issues in a modern society.
Discussion Leader:	Janice Mayne, American Fork Jr. High, American Fork, Utah.

* * * * *

"SAVE THE RIVER: SPEED OR LEISURE?"

RESOLUTION: Whereas adequate planning of the total usage of Provo Canyon has not been made; whereas plans are being made to finance a four lane super highway through the canyon, and whereas inadequate plans have been made for sewage disposal; and whereas the necessary utilities to support the canyon population have not been built; and whereas there has not been a proper adjudication of water among the several users; and whereas the Parks Commission has not made an adequate analysis of lands needed for park development; and whereas a majority of the residents of Utah County prefer recreational usage of the canyon to hold a predominate role among the several uses; and whereas no consideration has been given to recreational uses of the canyon; and whereas it is untimely to complete this project to the detriment of the residents today; now therefore, be it resolved that the Governor of the State of Utah, the Utah State Road Commissioner, and the several political subdivisions within Utah County be instructed to delay construction until such a time when adequate plans have been made to guarantee the wisest use of the canyon consistent with a preferential consideration being given to recreational uses, and that the Governor be requested to declare a moratorium on any construction at this time. Be it further resolved that a copy of this resolution be sent to the United States Bureau of Public Land, The Environmental Protection Agency, and the President's Commissioner in charge of Environmental matters requesting that they take steps to withdraw funds until adequate planning has been made and until all environmental factors have been given adequate considerations, and until such a time as recreational uses of land and water in the canyon has been given prime consideration.

This resolution is to be acted upon by the delegates to a county political party convention. Roles should be assigned to students. Their descriptions follow:

The Chairman conducts the meeting, welcomes the people, and turns the convention over to the Platform Chairman. The Platform Chairman accepts the Resolution Committee report which does not include the resolution. When presented the resolution on the floor, he turns to the Rules Committee Report which guides his actions. The Rules Committee Report says any Resolution has to be in the hands of one of the county officers prior to the call of the convention. When the resolution is presented, he has knowledge that the resolution was given to the County Chairman prior to the call, therefore he allows consideration on the Resolution. He in turn balances the discussion between the proponents and opponents and then places the resolution before the body for their approval or rejection. The Parliamentarian has knowledge of Roberts Rules of Order and rules on questions of floor procedure, while the Secretary takes minutes of the meeting.

ENVIRONMENTALIST sponsors of the resolution call a meeting prior to the county political convention. Invited are the supporters of the resolution. All lay their plans to secure adoption of the resolution at the convention.

Supporters: The following are the outlines of roles and tactics of the anti-highway group (resolution supporters):

1. Save the Provo River. He is to tell the story about the lack of a continuous flow of water causing loss of fish and plant life to sustain fish.

2. Realign the Highway. He is alerted to tell the story of three hazardous geological faults over which the highway is to be built and to suggest that much slippage of land could result and that extensive damage is imminent. He does not rule out the possibility of an earthquake.

3. Parks Development. He is to tell the story of meeting previously with the State Parks Commission who have not been invited to analyze the road building project as it relates to a needed parks system in the canyon.

4. Business Man/Recreation. He is a national movie star whose major push for the resolution stems from his interest in recreation. He desires that the whole canyon be complimentary to his recreational area.

5. & 6. Business Man from adjacent county and Railroad Developer. A representative and supporters of a group of businessmen who have purchased an old railroad and are in the process of converting it into a recreational business. They want to protect their property from encroachment by the highway. Part of their agreement in transfer of the railroad right of way property was that they would agree to build

two overpasses over the highway at a cost of over $600,000, so behind the scene they want to stop highway construction.

7. Members of Sportsman Association. Their interest is to slow the traffic in the canyon to prevent game being killed as it crosses the highway. They prefer the road not being built. If it is built, they want fencing and tunneling under the highway for the animals to move across the canyon.

8. A representative of the Sierra Club and a member of a local conservation group who are interested in locking up total land area as wilderness and where not wilderness, they want limited use. This is a target area and they want to win the battle for the recreationalist where the individual is predominate over the machine.

9. They also are working to eliminate blighted spots such as shacks, riding stables, and other eyesores that detract from the canyon's beauty, and desires to transform everything connected in the canyon into something pleasing to the eye, and perhaps most of all to preserve it for future generations.

10. An avid Sportsman whose interest is in proper wild life management and continuous flow of water down the Provo River. He wants the river unchanged and highway construction would demand relocation of the river.

11. A State Senator who for prestige purposes wants to identify with the movement. His feelings are that most of the people in the county favor leaving the highway as is, or at best, not disturbing the parts of the canyon not now covered by a highway. He councils the group as to the strategy necessary for the passing of the resolution in the county convention.

Opponents (to resolution - in favor of highway):

1. A representative from an organized group of interstate and intrastate truckers who want an alternate route through Provo Canyon to Eastern United States. Their major interest is that it is the shortest route from California to Denver. They want a four lane highway with limited access. They want to relegate the sightseeing and the usage of the canyon to a secondary purpose.

2. A representative from the major water consumers. As presently adjudicated the water of Provo River is favorable to agricultural and domestic uses and does not include recreational use as a primary use of waters. Therefore, they are fearful that there will be an encroachment upon the water that this group has controlled, or that it will become necessary to provide a continuous flow of water down the Provo River for fish life and the need may arise which would call for reallocation of water for recreational purposes in the canyon. (This group is receiving funds from the Federal, State and Local Governmental agencies to transfer water from Eastern Utah down the Provo River to divergent points to serve their multiple needs through out Central Utah. They fight the Resolution because it calls for the Federal and State Government to allocate water for recreational use.)

3. A private land owner. He does not want to see the resolution passed because he is the recipient of water for agriculture and residential purposes. Another group of the land owners comes from Springdell located in Provo Canyon. They own large blocks of land which are for sale. They have been guaranteed egress and ingress to the super highway to serve their best interest. They believe the highway will be a major influence in selling their lots at an increased profit.

4. A spokesman for city councils. Provo City owns a substantial acreage in the canyon and they have been assured that they will have adequate access to and from the highway. Orem City has joined forces with Provo City Council in unanimously endorsing highway construction. Their major interest is the increased tourist traffic traveling through Orem City thereby increasing their economic stability.

5. A spokesman for Utah County Government. The county has also unanimously approved the highway construction project because they want Utah County to benefit by the economic increase through the increased traffic both in and out of the canyon.

6. A spokesman for State Highway Department. The man representing the state highway is a former County Chairman who is presently one of the state road commissioners. He has had a major role in designing the highway and designing the public relations package to sell the project to the Utah and Wasatch County residents. He had already gained much success by having Orem and Provo City together with Utah County Government officials endorse the project. Passage of the resolution is diametrically opposed to his total efforts.

7. A representative of Utah Power and Light Company, which is a large land owner at the mouth of the canyon, as well as a large user of water that is being delivered by the Central Utah Project, they do not want to give up any of their present control over the usage of land and water that is under their ownership. They are fearful that both land and water will be delivered to recreational usage. An example is that they could be forced to maintain a continuous flow of water into the Provo River during low periods of water delivery down the canyon.

8. Several recreational owners. Holders of existing cafes and taverns have been assured by the Highway Department that there will be adequate signs along the new highway which will advertise that the public can leave the highway to reach their establishments. Their motive for favoring the new highway is the increased traffic through the canyon which they believe will increase their business.

9. A State Representative who supports construction of the highway for increased business potential to the county. He has personally made an agreement with the State Road Commission to improve the highway which passes his city.

10. A Chamber of Commerce Spokesman. The Chamber of Commerce is business orientated and wants increased tourist trade. They wish to protect the business man's preferred position as it relates to water and land in and as it is being delivered out of the canyon.

Issue:	Political Power: The Games People Play.
Topic:	Responsive Government: Who Decides?
Title:	"One Man, One Vote?: The Issue of Reapportionment in Georgia."
Descriptor:	Georgia is presented for reapportionment inquiry through population analysis and map representation. Students in small groups participate as reapportionment decision-makers through role playing and as evaluators of the Legislature's 1971 Congressional District boundaries.
Discussion Leader:	Joseph P. Stoltman, Department of Geography, Western Michigan University, Kalamazoo, Michigan.

* * * * *

One Man, One Vote?: The Issue of Reapportionment in Georgia.

The United States Constitution (14th Amendment) prescribes apportionments for members in the House of Representatives. The distribution of Representatives is made on the basis of the entire population of the fifty States, and in equal proportions, with the decennial census of population providing the base for apportionment. Each State has at least one Representative, however, no matter how small its population. The Representatives are assigned so that the average population per Representative has the least possible variation between States and between two or more Representatives of any State.

Problem: To establish Congressional District boundaries to insure all the residents of Georgia equal representation by their ten Congressmen.

Activity No. 1: Materials. a) 1970 Population Map of Georgia. b) Counties and Congressional Districts map of Georgia. c) 1970 County Populations of Georgia.

Objective: To evaluate the Georgia 1970 Congressional Districts using the 14th Amendment guidelines.

Procedures: Small groups perform analyses of population variance between districts and present their findings.

Activity No. 2: Materials. Same as for Activity No. 1, above.

Objective: To redistrict Georgia using the population data and establish district boundaries which produce as near to a zero variance as possible.

Procedures: Small groups devise reapportionment plans. Each group supports its plan with variance statistics.

Activity No. 3: Materials. Same as for Activity No. 1, above; and d) 1970 Proportion of Blacks by County in Georgia.

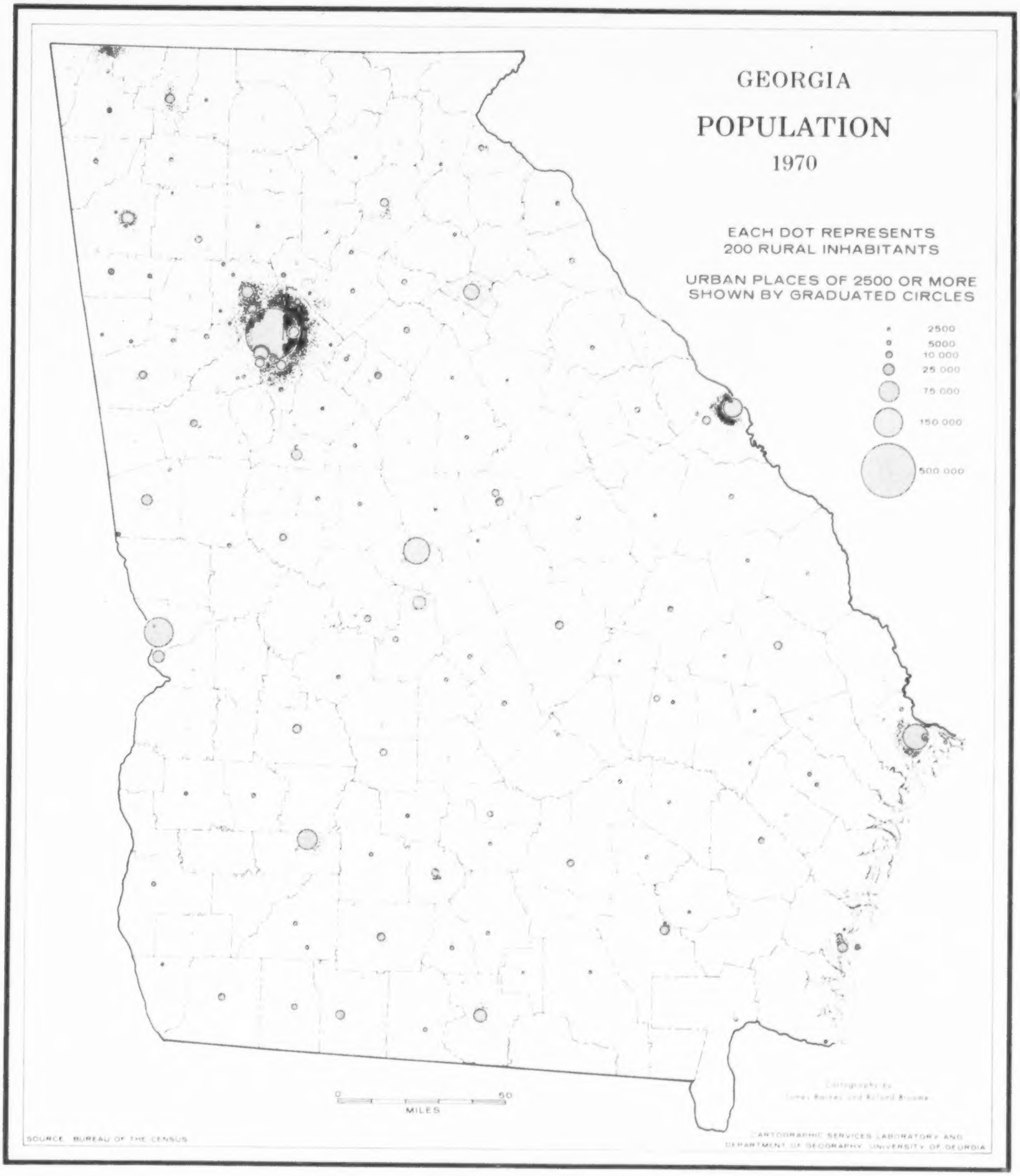
Objective: To map and evaluate the spatial impact of a compounding social variable (race) in reapportionment.

Procedures: Three or more small groups of students each works toward one of the following objectives: 1) to attain maximum black representation, 2) to attain maximum white representation, and 3) to attain racially proportional representation. Each small group supports its plan with variance statistics.

Activity No. 4: Materials. Same as for Activity No. 3, above and e) Map of Reapportioned Congressional Districts of Georgia, 1971 (available from the Secretary of State, Atlanta, Georgia).

Objective: To evaluate the 1971 reapportionment of Georgia by the Legislature and compare it with plans devised in earlier activities.

Procedures: Small groups undertake evaluation and present recommendations.


GEORGIA
POPULATION
1970

EACH DOT REPRESENTS
200 RURAL INHABITANTS
URBAN PLACES OF 2500 OR MORE
SHOWN BY GRADUATED CIRCLES
2500
5000
10 000
25 000
75 000
150 000
500 000
0
50
MILES
Cartography by
James Barnes and Roland Broome

SOURCE: BUREAU OF THE CENSUS

CARTOGRAPHIC SERVICES LABORATORY AND
DEPARTMENT OF GEOGRAPHY, UNIVERSITY OF GEORGIA

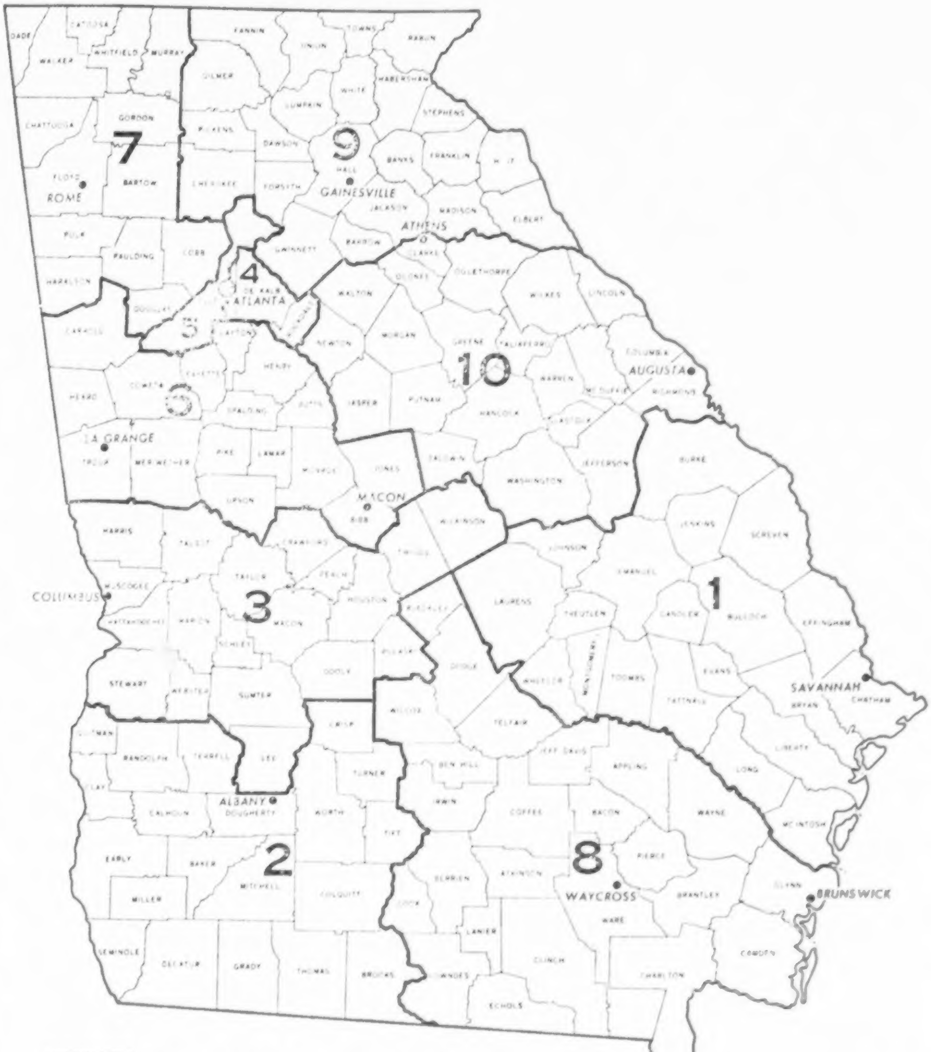
Figure 1

GEORGIA

Districts Established March 13, 1964

Map of Congressional Districts, Counties, and Selected Cities

(10 Districts)


7
9
4
5
6
10
3
1
2
8
ROME
GAINESVILLE
ATHENS
ATLANTA
AUGUSTA
LA GRANGE
MACON
COLUMBUS
SAVANNAH
ALBANY
WAYCROSS
BRUNSWICK

▭ County with two or more Congressional Districts

Source: U.S. Bureau of the Census, Congressional District Atlas, 1970.

U.S. Department of Commerce
Bureau of the Census

Figure 2

PROPORTION OF BLACKS BY COUNTY IN GEORGIA, 1970*

	%[a]		%[a]		%[a]
APPLING	21	EVANS	33	NEWTON	31
ATKINSON	32	FANNIN	1	OCONEE	16
BACON	13	FAYETTE	17	OGLETHORPE	37
BAKER	52	FLOYD	13	PAULDING	8
BALDWIN	38	FORSYTH	1	PEACH	57
BANKS	7	FRANKLIN	12	PICKENS	4
BARROW	17	FULTON	39	PIERCE	19
BARTOW	13	GILMER	0	PIKE	40
BEN HILL	31	GLASCOCK	24	POLK	16
BERRIEN	14	GLYNN	25	PULASKI	37
BIBB	34	GORDON	6	PUTNAM	49
BLECKLEY	22	GRADY	35	QUITMAN	60
BRANTLEY	10	GREENE	52	RABUN	1
BROOKS	46	GWINNETT	5	RANDOLPH	56
BRYAN	30	HABERSHAM	6	RICHMOND	30
BULLOCH	36	HALL	10	ROCKDALE	18
BURKE	60	HANCOCK	73	SCHLEY	45
BUTTS	43	HARALSON	8	SCREVEN	46
CALHOUN	61	HARRIS	45	SEMINOLE	36
CAMDEN	38	HART	23	SPALDING	27
CANDLER	34	HEARD	24	STEPHENS	12
CARROLL	17	HENRY	32	STEWART	65
CATOOSA	2	HOUSTON	17	SUMTER	44
CHARLTON	34	IRWIN	34	TALBOT	68
CHATHAM	34	JACKSON	13	TALIAFERRO	64
CHATTAHOOCHEE	17	JASPER	48	TATTNALL	31
CHATTOOGA	10	JEFF DAVIS	19	TAYLOR	45
CHEROKEE	4	JEFFERSON	54	TELFAIR	35
CLARKE	20	JENKINS	44	TERRELL	60
CLAY	62	JOHNSON	31	THOMAS	40
CLAYTON	5	JONES	39	TIFT	29
CLINCH	31	LAMAR	39	TOOMBS	27
COBB	4	LANIER	30	TOWNS	0
COFFEE	26	LAURENS	34	TREUTLEN	33
COLQUITT	23	LEE	44	TROUP	32
COLUMBIA	22	LIBERTY	35	TURNER	36
COOK	31	LINCOLN	46	TWIGGS	56
COWETA	32	LONG	32	UNION	0
CRAWFORD	52	LOWNDES	29	UPSON	28
CRISP	40	LUMPKIN	2	WALKER	5
DADE	3	MC DUFFIE	42	WALTON	28
DAWSON	0	MC INTOSH	53	WARE	23
DECATUR	42	MACON	61	WARREN	58
DE KALB	14	MADISON	14	WASHINGTON	54
DODGE	25	MARION	52	WAYNE	21
DOOLY	50	MERIWETHER	48	WEBSTER	58
DOUGHERTY	34	MILLER	29	WHEELER	31
DOUGLAS	11	MITCHELL	49	WHITE	6
EARLY	48	MONROE	46	WHITFIELD	4
ECHOLS	28	MONTGOMERY	33	WILCOX	31
EFFINGHAM	25	MORGAN	45	WILKES	48
ELBERT	33	MURRAY	1	WILKINSON	46
EMANUEL	30	MUSCOGEE	26	WORTH	38

[a] Rounded to nearest whole percentage

* Computed from: U.S. Bureau of the Census, Characteristics of the Population, Georgia, 1970.

Table 1

S-6-454

COUNTY POPULATIONS OF GEORGIA, 1970*

APPLING	12,726	FANNIN	13,357	OCONEE	7,915
ATKINSON	5,879	FAYETTE	11,364	OGLETHORPE	7,598
BACON	8,233	FLOYD	73,742	PAULDING	17,520
BAKER	3,875	FORSYTH	16,928	PEACH	15,990
BALDWIN	34,240	FRANKLIN	12,784	PICKENS	9,620
BANKS	6,833	FULTON (Total)	607,592	PIERCE	9,281
BARROW	16,859	FULTON (Dist. 4)	129,714	PIKE	7,316
BARTOW	32,663	GILMER	8,596	POLK	29,656
BEN HILL	13,171	GLASCOCK	2,280	PULASKI	8,066
BERRIEN	11,556	GLYNN	50,528	PUTNAM	8,394
BIBB	143,418	GORDON	23,570	QUITMAN	2,180
BLECKLEY	10,291	GRADY	17,826	RABUN	8,327
BRANTLEY	5,940	GREENE	10,212	RANDOLPH	8,734
BROOKS	13,739	GWINNETT	72,349	RICHMOND	162,437
BRYAN	6,539	HABERSHAM	20,691	ROCKDALE	18,152
BULLOCK	31,585	HALL	59,405	SCHLEY	3,097
BURKE	18,255	HANCOCK	9,019	SCREVEN	12,591
BUTTS	10,560	HARALSON	15,927	SEMINOLE	7,059
CALHOUN	6,606	HARRIS	11,520	SPALDING	39,514
CAMDEN	11,334	HART	15,814	STEPHENS	20,331
CANDLER	6,412	HEARD	5,354	STEWART	6,511
CARROLL	45,404	HENRY	23,724	SUMTER	26,931
CATOOSA	28,271	HOUSTON	62,924	TALBOT	6,625
CHARLTON	5,680	IRWIN	8,036	TALIAFERRO	2,423
CHATHAM	187,767	JACKSON	21,093	TATTNALL	16,557
CHATTAHOOCHEE	25,813	JASPER	5,760	TAYLOR	7,865
CHATTOOGA	20,541	JEFF DAVIS	9,425	TELFAIR	11,381
CHEROKEE	31,059	JEFFERSON	17,174	TERRELL	11,416
CLARKE	65,177	JENKINS	8,332	THOMAS	34,515
CLAY	3,636	JOHNSON	7,727	TIFT	27,288
CLAYTON	98,043	JONES	12,218	TOOMBS	19,151
CLINCH	6,405	LAMAR	10,688	TOWNS	4,565
COBB	196,793	LANIER	5,031	TREUTLEN	5,647
COFFEE	22,828	LAURENS	32,738	TROUP	44,466
COLQUITT	32,200	LEE	7,044	TURNER	8,790
COLUMBIA	22,327	LIBERTY	17,569	TWIGGS	8,222
COOK	12,129	LINCOLN	5,895	UNION	6,811
COWETA	32,310	LONG	3,746	UPSON	23,505
CRAWFORD	5,748	LOWNDES	55,112	WALKER	50,691
CRISP	18,087	LUMPKIN	8,728	WALTON	23,404
DADE	9,910	MC DUFFIE	15,274	WARE	33,525
DAWSON	3,639	MC INTOSH	7,371	WARREN	6,669
DECATUR	22,310	MACON	12,933	WASHINGTON	17,480
DE KALB	415,387	MADISON	13,517	WAYNE	17,858
DODGE	15,658	MARION	5,099	WEBSTER	2,362
DOOLY	10,404	MERIWETHER	19,461	WHEELER	4,596
DOUGHERTY	89,639	MILLER	6,397	WHITE	7,742
DOUGLAS	28,659	MITCHELL	18,956	WHITFIELD	55,108
EARLY	12,682	MONROE	10,991	WILCOX	6,998
ECHOLS	1,924	MONTGOMERY	6,099	WILKES	10,184
EFFINGHAM	13,632	MORGAN	9,904	WILKINSON	9,393
ELBERT	17,262	MURRAY	12,986	WORTH	14,770
EMANUEL	18,189	MUSCOGEE	167,377		
EVANS	7,290	NEWTON	26,282	THE STATE	4,589,575

*U.S. Bureau of the Census, Final Population Counts, Georgia, 1970.

Table 2

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "Local Zoning Ordinances: Who's Allowed To Do What?"

Descriptor: The approach to this unit is: "Let us zone the township as we see it." With the use of our own resources and existing information a "West Deer Zoning Map" is constructed.

It is then compared with the official map. An attempt is also made to analyze the differences that existed between them.

Discussion Leader: Vincent Antonelli, Deer Lakes Senior High School,
R.D. 1, Cheswick, Pennsylvania

* * * * *

"LOCAL ZONING ORDINANCES: WHO'S ALLOWED TO DO WHAT?"

Zoning of West Deer Township

This unit on zoning was received enthusiastically by the students, because the subject was tangible to them since it identified with their own home area. They were easily encouraged to investigate the physical features of their own community. As to be expected, there were many features that they were not aware of. The fact that the township was zoned in recent years made this a "natural" study for the students. As a member of the Planning Commission for the first five years of its existence, I felt adequately qualified to lead the discussion.

This unit could be utilized in any school using either their own community or West Deer Township. The results of such a unit should identify with a greater concern on the part of the students involved with their local ecology and social awareness.

The unit proceeded as follows:

Initially we discussed the reasons for and against zoning.

A. Reasons for Zoning
   1. Protect individual rights
   2. Prevent and control pollution (all types)
   3. Protect land values
   4. Prevent congested roads
   5. Project planning in relation to location of new schools
   6. Future location of recreational facilities
   7. Protect the ecology
   8. Project and plan utilities for the future
   9. Locate new business areas

10. Promote new industries
11. Promote new home growth

B. Reasons Against Zoning
   1. Infringement of personal rights
   2. Lowering land values by designating future use.
   3. Possible elimination of existing structures for future roads, parks, or schools
   4. Cost involved in improvements

Examples are given of communities which have or do not have zoning with their respectful results. How can we profit by their mistakes?

The class is divided into three groups. Each group elects a chairman who in turn subdivides the group into more specific areas. At the end of an allotted period of time, the chairman of each group presents a summary of the group's conclusions to the other members of the class.

Two half days are utilized to tour the township by school bus. Visible physical characteristics are pointed out and discussed at the next class meeting.

A large map of the township is displayed on the wall of the classroom with only the boundaries, streams, and roads illustrated.

A judge is chosen from the class to preside over the final discussions on "Zoning the Township". A jury of six students is selected from the class. (Two from each group)

The following areas are placed on the wall map and are identified with colored marking pens:

1. Semi-rural residential
2. Suburban residential
3. Semi-urban residential
4. Community commercial
5. Local commercial
6. Highway commercial
7. Industrial
8. Conservational

The Judge will then proceed to lead a discussion concerned with the location of the eight Zoning Districts. Each group will present reasons for or against the proposed locations. When the Judge sees fit to end the debate, he will do so and permit the jury to make a final decision.

This procedure will continue until all of the Zoning Districts are placed on the wall map. A copy of the existing official Zoning Map will be hung on the wall for comparison. A final and concluding discussion will be held concerning the differences in the two maps (which there is sure to be). The purpose of this is to try to reason out why the Zoning Board made the decisions they did.• Each student then must ask himself whether their decisions violated basic principles of good zoning or were they using their ideas in another "useful" direction?

Development of West Deer Township

Since its settlement over 150 years ago, there have occurred significant changes in both the number and character of West Deer's population. Since its founding, every decade has evidenced an increase in total population - with a single exception. Between 1940 and 1950 West Deer endured a 5.5 percent decrease in total population, which was precipitated largely by underemployment in the mines. Many members of the male prime labor force migrated to areas of more sanguine employment opportunities. Despite an even higher unemployment in the succeeding decade (1950-1960), there was recorded a 21 percent increase in total population. This phenomenon was a direct result of "suburbanism".

Even as the number of people has significantly changed over the decades, so has the character of the population. In addition to origin, religion and race, probably the most prominent factor regulating the character or nature of a population is the prevailing industry supporting the economy of that community. For the initial 90 years, West Deer was sustained almost exclusively by agriculture. The early West Deer population, many of whom were immigrants from Scotland, Ireland and northern Europe, were indisputably agrarian by nature.

About the turn of the 20th century, a new industry was born. By 1920, agriculture had substantially subsided and mining became prevalent. Immigrants from nearly every European country poured into West Deer and gradually, as mining replaced agriculture, the character of the people necessarily changed. During the good mining years, generally in the vicinity of the two World Wars, wages were high and the economy buoyant. As the upper Freeport coal vein is one of exceptional quality and seemingly limitless quantity, there appeared little need for industrial diversification. It was not anticipated, however, that full-scale mine automation and a decline in coal demand would precipitate a 125 percent increase in unemployment in West Deer over the ten year period between 1950 and 1960.

However, due to the sharply increased mobility of the American and the substantial increase in industrial diversification in the Pittsburgh region, a discernible movement towards suburban living was evidenced. Between 1950 and 1960, a large number of suburbanites from Pittsburgh and the Allegheny Valley migrated into West Deer. Several significant non-mining communities were developed to accomodate these citizens interested in semi-rural living. It has since been determined that this new "suburbanism" was serving dramatically to boost the economy of West Deer and could, in fact, serve as a replacement for the fast-fading mining activity. It became manifest that as the prevailing industry was enduring a change, so was the character of the population. The median school years completed and number of students having completed college expanded. The median family income and median housing value substantially increased. The size of the average family decreased. The population became representative of higher education, skills and training.

Even though the new "suburbanism" was principally responsible for a 21 percent increase in total population between 1950 and 1960 in face of a 125 percent increase in unemployment, a review of the region discloses that adjacent townships were experiencing greater, in some cases far greater, suburban expansion than West Deer. This is due principally to the uninviting mining scars inflicted upon West Deer over the past 65 years and to its greater distance from Pittsburgh and the upper Allegheny Valley.

Population and Population Density

Population density considerations are utilized to indicate the ratio of population to the land acreage and are measured in persons per acre. In this study there are three types of man-land relationships analyzed and these are defined as follows:

Gross Density:	This represents the number of persons per raw acre of land, regardless of its present development or lack of development. This category deals with total acres.
Net Residential Density:	This category represents the number of persons per residential acre. Residential land use in this sense includes the following categories; single family and trailers, general residential, mixed residential (with commercial).
Net Developed Density:	This category represents the number of persons per developed acre. Developed acreage in this study includes all land use categories with the exception of wooded, vacant and agricultural.

Population density determinations are of great importance in formulating meaningful zoning and subdivision regulations. An area intending to maintain a semi-urban or semi-rural character must obviously attempt to effect lower population densities than a populous urban area. Residential lots need be considerably larger and conservation areas more ample in suburban areas. To follow is a table indicating population and population densities by Planning Districts in West Deer.

TABLE 1. POPULATION AND POPULATION DENSITIES BY PLANNING DISTRICTS 1965

Planning District Name and Number		Acres	*Estimated Population	Gross Density Per Acre	Residential Acres	Residential Density	Developed Acres	Developed Density
Deer Creek	I	4,147	977	0.2	85.0	11.5	216.1	4.5
Fawn Haven	II	3,245	1,363	0.4	95.6	14.3	255.0	5.3
Bairdford	III	2,178	1,312	0.6	95.6	13.7	255.0	5.1
Ideal Manor	IV	1,697	2,185	1.3	294.0	7.4	446.3	4.9
Russellton	V	2,854	2,656	0.9	162.9	16.3	878.5	3.0
Curtisville	VI	4,034	2,725	0.7	201.9	13.5	584.4	4.7
Total		18,156	11,217	0.6	935.0	11.9	2,635.2	4.3

* 1965 Estimated population calculated from number of houses determined by 1965 field survey by City Planning Division, Michael Baker, Jr., Inc.

Source: City Planning Division, Michael Baker, Jr., Inc.

It is not surprising that the most intense development is in the modern south-central Ideal Manor Planning District. In this District the total population is not as large as either Russellton or Curtisville Districts, and the total acreage is considerably smaller. The lowest densities are registered in the less developed western Districts, especially the northwestern District of Deer Creek.

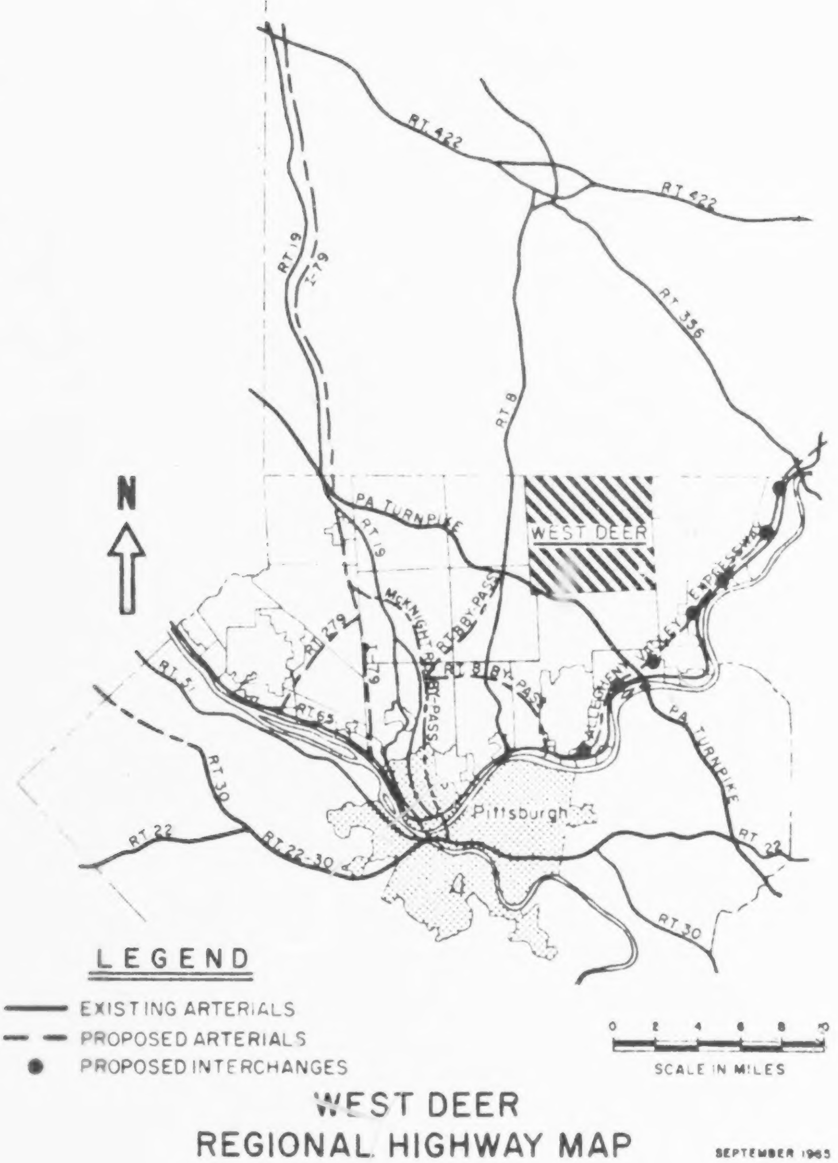

RT 422
RT 422
RT 19
I-79
RT 356
RT 8
N
PA TURNPIKE
RT 19
WEST DEER
McKNIGHT RD.
RT 8 BY-PASS
RT 279
RT 8 BY-PASS
I-79
BY-PASS
ALLEGHENY VALLEY EXPRESSWAY
RT 51
RT 65
PA TURNPIKE
Pittsburgh
RT 30
RT 22
RT 22-30
RT 22
RT 30
LEGEND
EXISTING ARTERIALS
PROPOSED ARTERIALS
PROPOSED INTERCHANGES
0 2 4 6 8 10
SCALE IN MILES
WEST DEER
REGIONAL HIGHWAY MAP
SEPTEMBER 1965

Figure 1

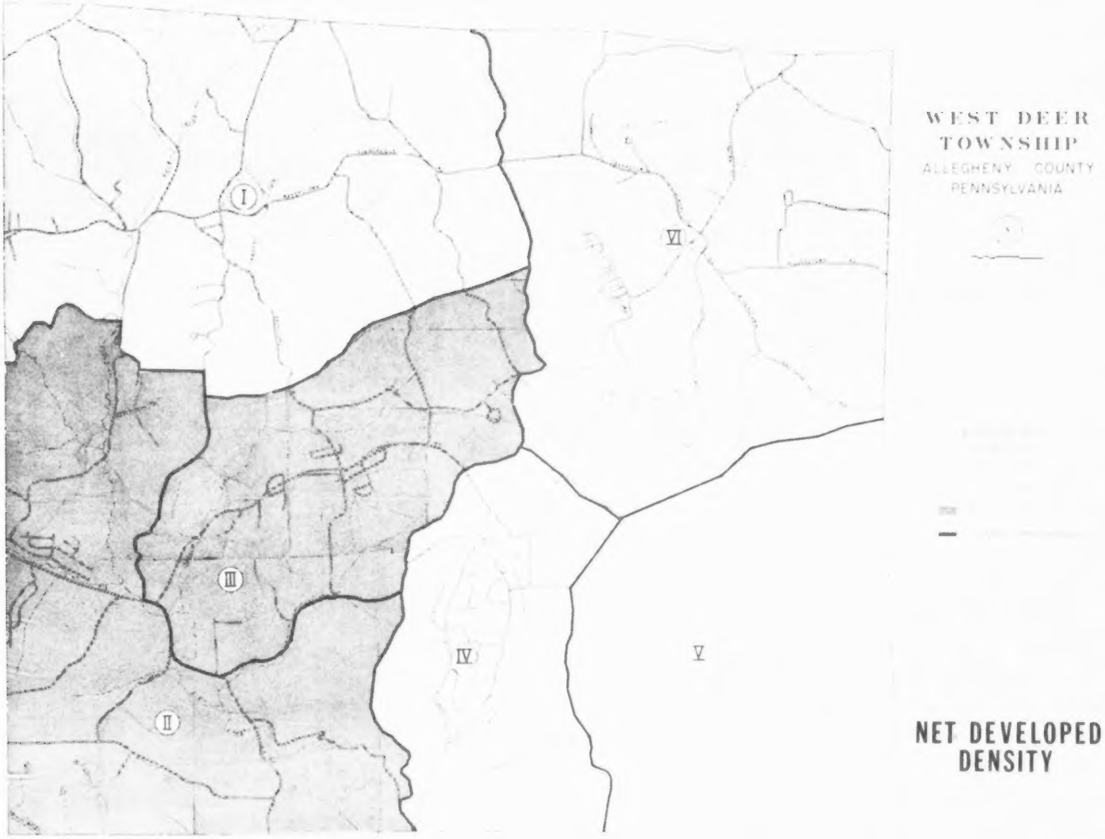

WEST DEER
TOWNSHIP
ALLEGHENY COUNTY
PENNSYLVANIA
I
II
III
IV
V
VI
NET DEVELOPED
DENSITY

Figure 2

S-6-462

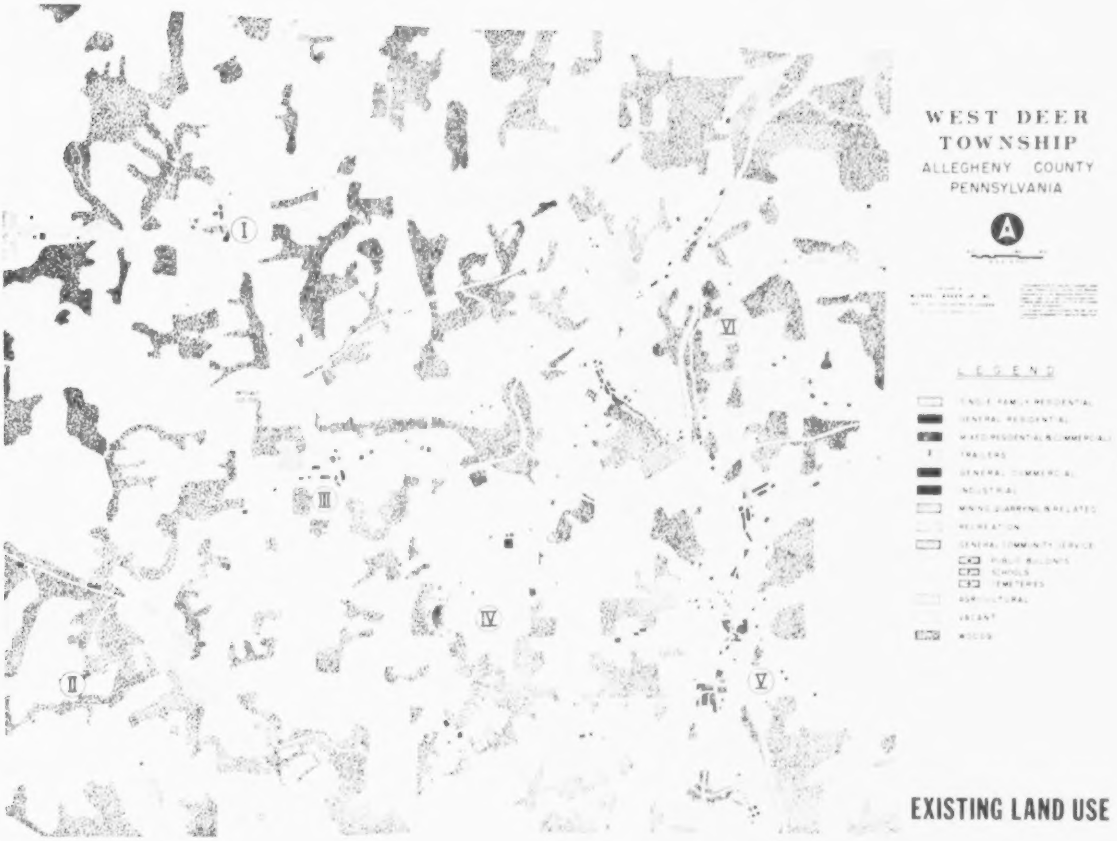

WEST DEER
TOWNSHIP
ALLEGHENY COUNTY
PENNSYLVANIA
A
LEGEND
SINGLE FAMILY RESIDENTIAL
GENERAL RESIDENTIAL
MIXED RESIDENTIAL & COMMERCIAL
TRAILERS
GENERAL COMMERCIAL
INDUSTRIAL
MINING QUARRYING & RELATED
RECREATION
GENERAL COMMUNITY SERVICE
PUBLIC BUILDINGS
SCHOOLS
CEMETERIES
AGRICULTURAL
VACANT
WOODS
I
II
III
IV
V
VI
EXISTING LAND USE

Figure 3

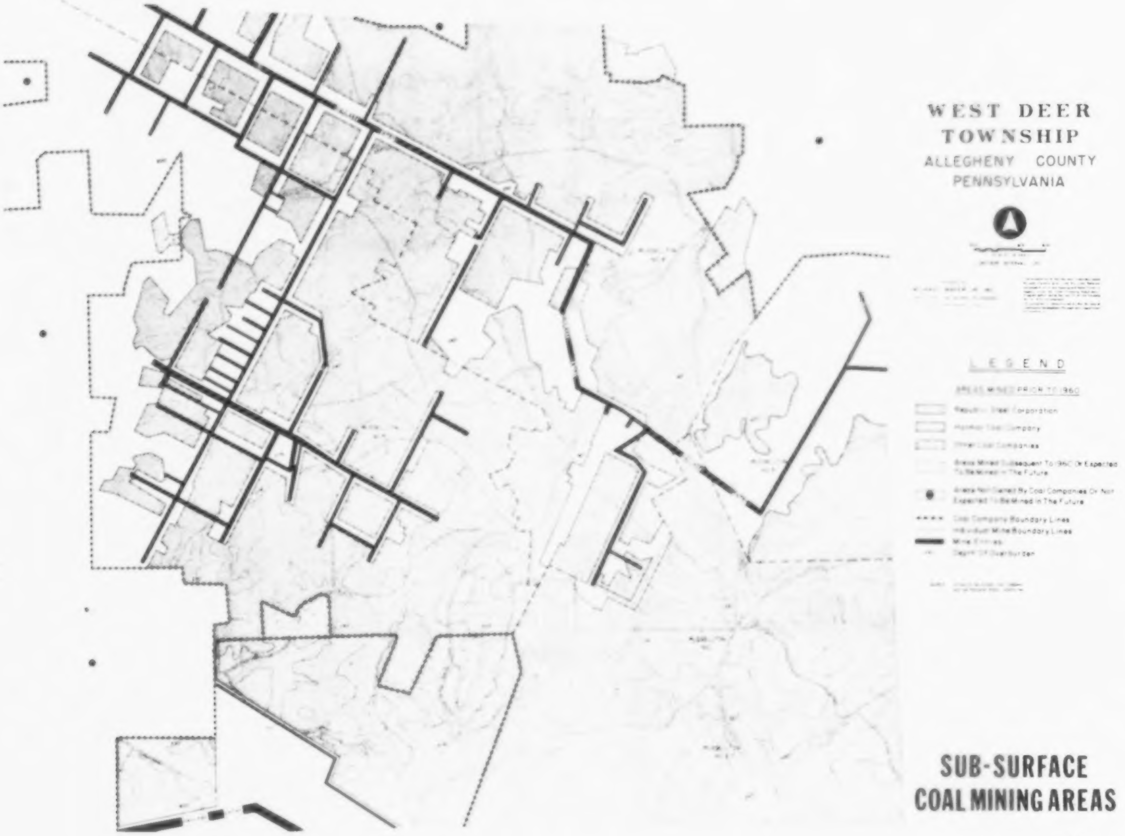

WEST DEER
TOWNSHIP
ALLEGHENY COUNTY
PENNSYLVANIA
LEGEND
AREAS MINED PRIOR TO 1960
Republic Steel Corporation
Harmar Coal Company
Other Coal Companies
Areas Mined Subsequent To 1960 Or Expected To Be Mined In The Future
Areas Not Owned By Coal Companies Or Not Expected To Be Mined In The Future
Coal Company Boundary Lines
Individual Mine Boundary Lines
Mine Entries
Depth Of Overburden
SUB-SURFACE
COAL MINING AREAS

Figure 4

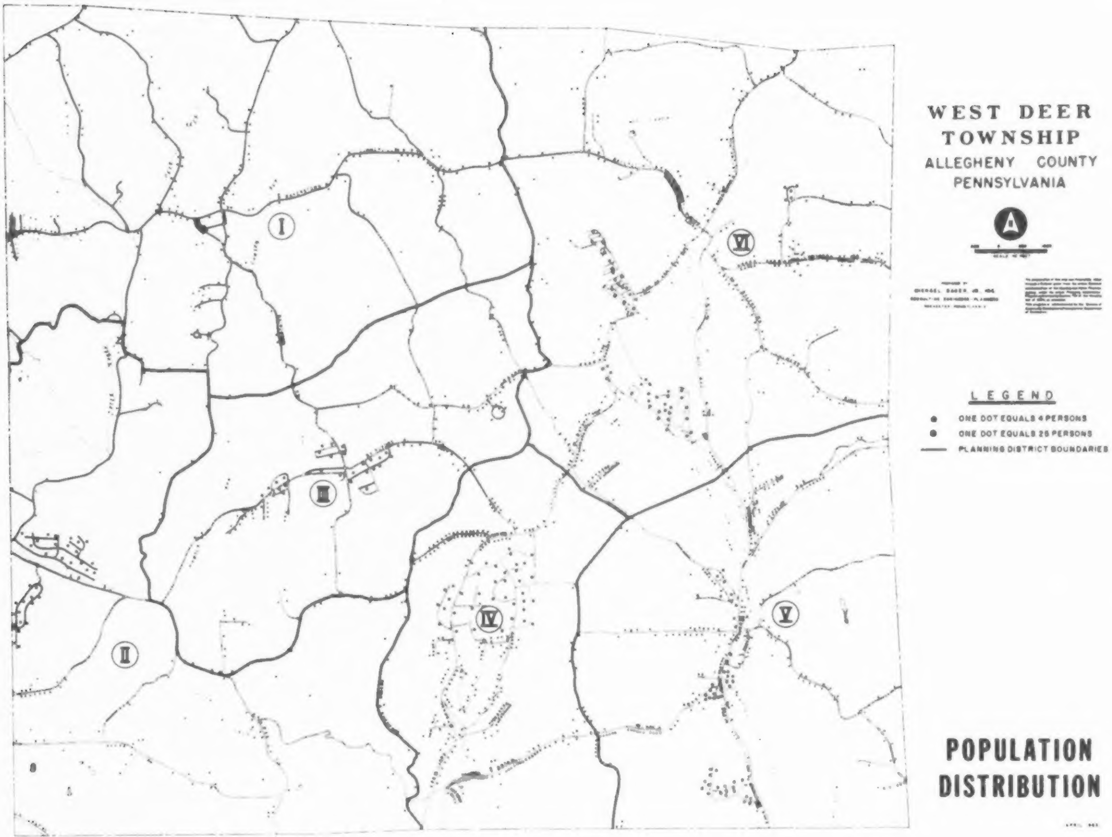

WEST DEER
TOWNSHIP
ALLEGHENY COUNTY
PENNSYLVANIA
A
LEGEND
ONE DOT EQUALS 4 PERSONS
ONE DOT EQUALS 25 PERSONS
PLANNING DISTRICT BOUNDARIES
POPULATION
DISTRIBUTION
I
II
III
IV
V
VI

Figure 5

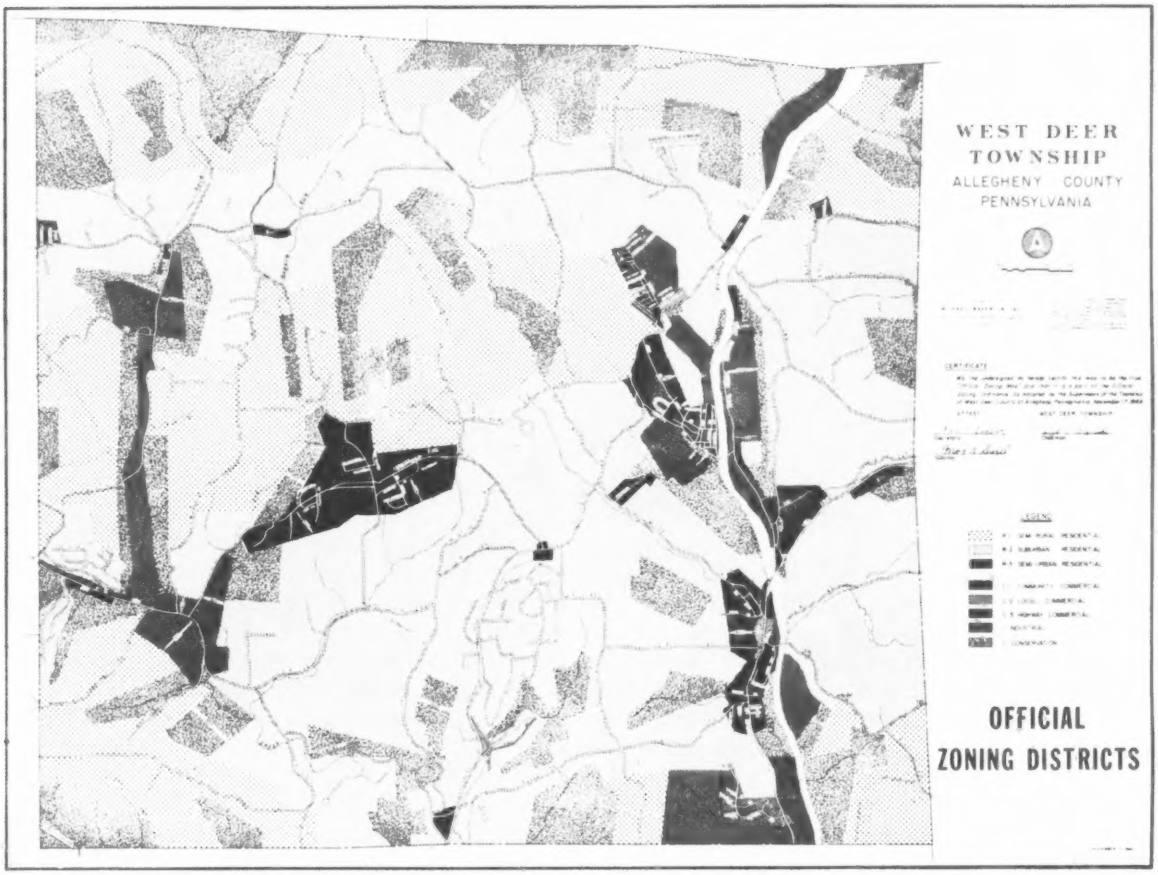

WEST DEER
TOWNSHIP
ALLEGHENY COUNTY
PENNSYLVANIA
CERTIFICATE
ATTEST
WEST DEER TOWNSHIP
LEGEND
R-1 SEMI-RURAL RESIDENTIAL
R-2 SUBURBAN RESIDENTIAL
R-3 SEMI-URBAN RESIDENTIAL
COMMUNITY COMMERCIAL
C-2 LOCAL COMMERCIAL
C-3 HIGHWAY COMMERCIAL
INDUSTRIAL
CONSERVATION
OFFICIAL
ZONING DISTRICTS

Figure 6

S-6-466

Issue: Political Power: The Games People Play

Topic: Responsive Government: Who Decides?

Title: "Project Balance: Desegregation Proposals for Fresno's Junior High Schools."

Descriptor: Many metropolitan areas of the nation have been recently charged by the United States Department of Health, Education, and Welfare, with operating de facto segregated schools.

In this activity the students examine the racial distribution within the junior high schools of Fresno. Upon discovering evidence of de facto segregation, the students will examine various data, discuss, and present plans for achieving racial balance within the junior high school system.

Discussion Leader: H. Douglas Link, Fresno High School, Fresno, Calif., James F. Holmes, Fresno High School, Fresno, Calif., Rodney D. Mitchell, Goodman Middle School, Gig Harbor, Washington.

* * * * *

PROJECT BALANCE

To study the problem of de facto segregation, the class will be divided into "citizen" committees which have been appointed by the local school board to examine the racial composition of the local junior highs and to make their recommendations which will provide for acceptable racial balance according to state and H.E.W. guidelines. To stay within the guidelines, students must determine the percentage of minority students in the district junior high schools and are then allowed a margin of 15% above or below that figure in determining their school quotas. In addition to the "citizens" committees composed of six students each, there will be a five man school board, one superintendent of schools, and two news reporters.

Each citizen committee will make a formal report to the simulated schoolboard in a public session and be required to defend their recommendations which will be both verbal and cartographic in nature. It is suggested that the main role of the teacher in this activity be that of a resource person.

EDUCATIONAL OBJECTIVES AND EVALUATION

At the conclusion of this activity the students should be better able to do the following:

List and explain some of the major reasons why the junior high boundaries are drawn the way they are.

Discuss the rationale and provisions of some of the more successful school desegregation plans which have been tried in various parts of the nation.

Discuss some of the various social and economic implications of a school integration policy for the city.

Recognize value conflicts which can result from an administration decision to change school boundaries to achieve integration.

SEQUENTIAL DEVELOPMENT AND ACTIVITIES

In the first part of the activity the students will be given a data packet containing all the items listed in the "Materials and Resources Needed". In addition to the packet each citizens committee will receive one transparency showing locations of junior high schools with no boundaries given.

The second part of the activity will require the students to read the "Background Readings" on some major school desegregation proposals. Once the students have been assigned their role, they will receive a "role card" with some basic information relevant to their particular role.

The third part of the activity will be devoted to meetings in which group members study their data and exchange information on possible solutions to their task. The school board members will study their data and conduct a private exchange of information between themselves, the student superintendent, and the actual Director of Human Relations for the city schools.

The "citizens" committees representing various residential areas, will combine a study of their data with an exchange of information so they can present their recommendation to the board at a later time.

The two news reporters will be required to circulate between various groups and take notes on the student conversations which they will write-up daily in the form of a "newsletter" and provide to the students at the beginning of each class meeting as a summary of events from the preceding day.

After the groups have discussed the various proposals, they must reach group consensus on one recommendation that they can present to the school board. The proposal must contain written and/or verbal solutions and rationale as well as a cartographic display indicating what the school boundaries would be like after implementation of their group proposal.

The final portion of the activity will be devoted to the presentations by the citizen committees, the board decision on which proposal to accept, and the debriefing. Each group will make brief presentations and will be subject to a short "question and answer" period. The student school board president will preside during the presentations with the superintendent sitting as a board advisor.

After presentations and the board deliberation period, the board president will give their decision to the class. In the event that the board rejects all the citizen committee recommendations, it must then substitute one of its own.

STUDENT ROLES

Resident Groups

1. One resident (White) from North Fresno in the Tenaya, Ahwahnee, Wawona, and Tioga districts. You will approve any "reasonable" proposal that will provide for racial balance, maintain "quality" education, and not bankrupt the school district.

2. One resident (Black) from Southwest Fresno in the Irwin and Addams school districts. You will accept any reasonable proposal for racial balance. You also feel that an "integrated" education is more important than the extra resources needed in achieving that education.

3. One resident (Spanish-surnamed) from South-Central Fresno in the Sequoia, Yosemite, and old Washington and Longfellow districts. You believe that a "good" education is one of the important ways of getting minority children into the mainstream of American life. In addition, you feel that an "integrated" education is synonmous with a "good" education.

4. One resident (White) from Southeast Fresno in the Kings Canyon district. You do not approve of busing because you do not feel that the value gained through integration by busing is worth the extra resource allocation needed to bus youngsters within the city. You might agree to other plans provided the "quality" of education remains high after integration.

5. One resident (White) from North-Central Fresno in the Hamilton, Ft. Miller, Sierra, and Cooper districts. You have had some experience with busing into your schools and think that many additional school "problems" resulted from it. You oppose "forced" busing but might approve other plans.

6. One resident (Black) from Southwest Fresno. You do not believe that Black youngsters should be bused to white schools. Your position is that schools heavily populated with Blacks should remain that way with Black teachers, Black curriculums, and controlled by the Black community.

School Board Members

Your first task will be to elect a board president to preside over your meetings. The board's tasks are to study the data packet, research various desegregation proposals, talk with the Director of Human Relations, listen to citizen group recommendations, and select one plan for desegregating the junior high schools in the city of Fresno.

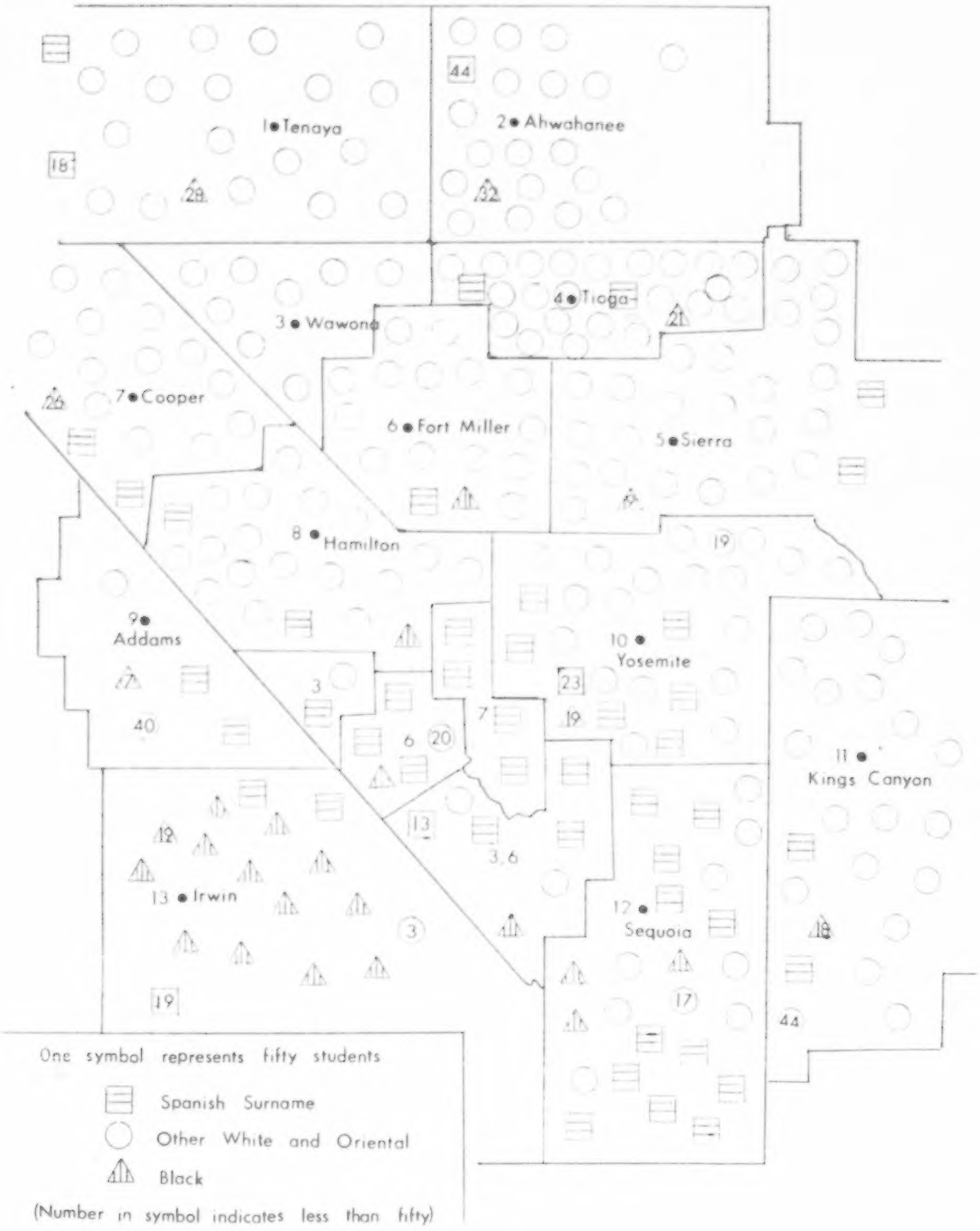
Superintendent of Schools

Your job will be to circulate between the citizen groups and act as a resource person for them; meet with the school board whenever requested by them to do so; and to sit with the board during their consultations with the Director of Human Relations and during the group presentations.

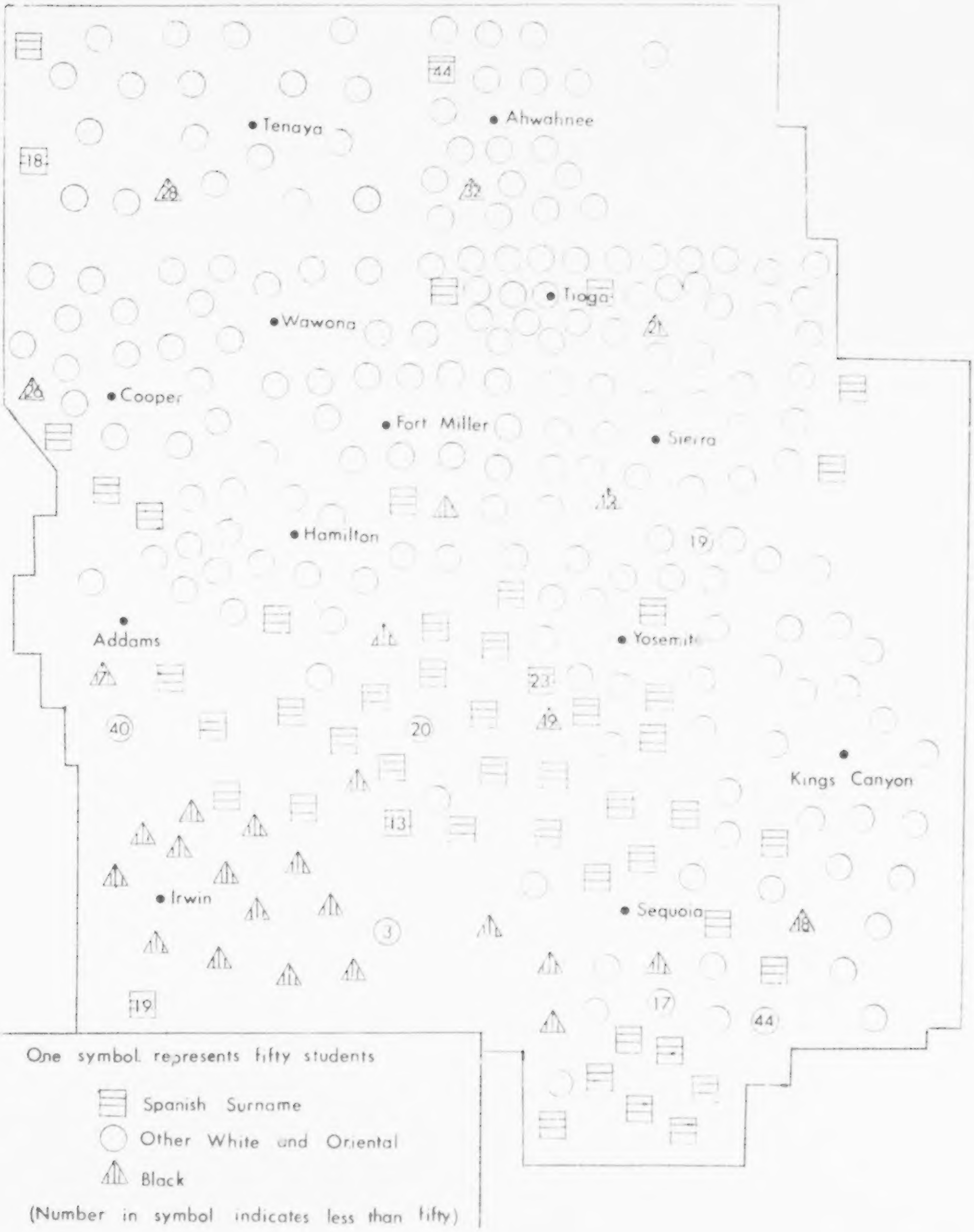
Two News Reporters

You will circulate between all groups and write-up brief news stories daily which will be distributed to the class on the following day. You will present rough drafts of your news articles daily to the "Teacher-Editor" and may be called upon to prepare a short videotape presentation of some of the news gathered by you.

ETHNIC DISTRIBUTION OF JUNIOR HIGH STUDENTS

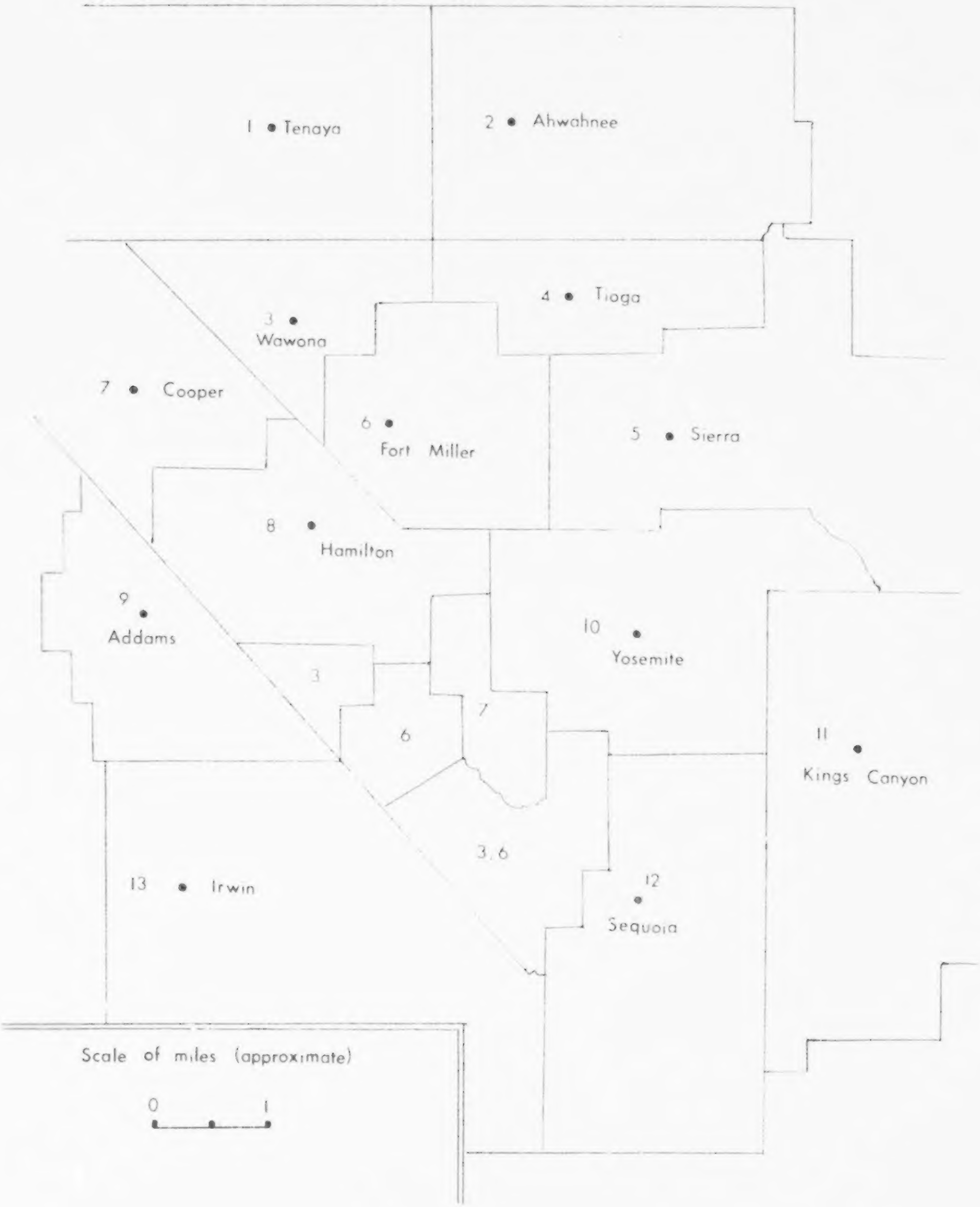

1 Tenaya
2 Ahwahanee
3 Wawona
4 Tioga
5 Sierra
6 Fort Miller
7 Cooper
8 Hamilton
9 Addams
10 Yosemite
11 Kings Canyon
12 Sequoia
13 Irwin
One symbol represents fifty students
Spanish Surname
Other White and Oriental
Black
(Number in symbol indicates less than fifty)

ETHNIC DISTRIBUTION OF JUNIOR HIGH STUDENTS — WORK MAP


Tenaya
Ahwahnee
44
18
28
32
Tioga
21
Wawona
26
Cooper
Fort Miller
Sierra
12
Hamilton
19
Addams
Yosemite
17
23
40
20
12
Kings Canyon
13
Irwin
Sequoia
3
18
17
44
19
One symbol represents fifty students
Spanish Surname
Other White and Oriental
Black
(Number in symbol indicates less than fifty)

S-6-472

JUNIOR HIGH SCHOOL ATTENDANCE AREAS —— WORK MAP


1 Tenaya
2 Ahwahnee
3 Wawona
4 Tioga
5 Sierra
6 Fort Miller
7 Cooper
8 Hamilton
9 Addams
10 Yosemite
11 Kings Canyon
12 Sequoia
13 Irwin
3
6
7
3, 6
Scale of miles (approximate)
0
1

[illegible]

School	[illegible]	%	Other White	%	[illegible]	%	[illegible]	%	[illegible]	%	Other non-White	%	Total Minorities	%	Total Students
Adams	92	47	90	46	7	4	3	2	-	-	1	.5	103	53	193
[illegible]	51	[illegible]	[illegible]	[illegible]	33	3	10	1	-	-	[illegible]	.7	95	10	926
[illegible]	291	29	[illegible]	67	[illegible]	3	[illegible]	1	-	-	3	.3	310	33	957
[illegible]	264	[illegible]	[illegible]	65	[illegible]	6	[illegible]	[illegible]	[illegible]	.1	1	-	390	35	1,1[illegible]
Hamilton	150	11	[illegible]	[illegible]	56	4	27	3	[illegible]	.1	[illegible]	.1	[illegible]	21	1,[illegible]
Irwin	121	16	[illegible]	.4	619	[illegible]	1	.1	-	-	-	-	741	94	784
Kings Canyon	109	10	894	86	[illegible]	[illegible]	24	2	-	-	2	.1	152	14	1,046
[illegible]	597	51	417	37	116	10	13	1	1	-	[illegible]	.1	731	64	1,14[illegible]
Sierra	91	7	1162	89	[illegible]	.6	30	2	4	.3	-	-	13[illegible]	[illegible]	1,29[illegible]
Tenaya	63	6	929	88	29	3	31	3	1	-	-	-	124	12	1,0[illegible]
Tioga	90	8	1045	89	21	2	[illegible]	[illegible]	-	-	[illegible]	.1	133	11	1,178
Wawona	151	13	[illegible]	[illegible]	[illegible]	6	10	1	1	.1	-	-	[illegible]	[illegible]	[illegible]
Yosemite	323	26	869	71	21	2	13	1	1	-	3	.2	361	29	1,230

12/29/70 (Revised)

Table 1

S-6-474

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "You Can't Sell Your Mother: Conflict Between the United States Government and the Sacne Nation."

Descriptor: This is a simulation exercise based on an actual land use conflict - The Kinzua Dam Project on the Allegheny River of Northwestern Pennsylvania and Southwestern New York, involving the U. S. Government and the Seneca Indian Nation.

Discussion Leaders: Theodore Bond and Gregory Pierce, Springer Jr. High School and
Robert DosPassos and Robert Miley, Hanby Jr. High School, Wilmington, Delaware.

* * * * *

You Can't Sell Your Mother

I. Introduction.

This experience is divided into approximately four to six class periods. At the completion of the exercise students should see the complexities involved in a land use conflict, and that the solutions are not always acceptable to all.

The students are led through an inductive learning process, following which there is a debriefing period partially student-oriented and partially the responsibility of the teacher. During this debriefing period, the instructor serves as a discussion leader and is responsible for posing key questions which will allow the players to identify the learning processes used, the skills developed, the attitudes involved, and the content acquired during the experience.

II. Detailed Description of Each Day's Activity.

First Day.

1. Introduction - the teacher should tell the students that this is a land use conflict study, and that it is patterned after an actual conflict. The class elected Senators will ultimately make a decision on the conflict while pressure groups will attempt to sway the decision. The content of the game will be contained in various sources: newspapers, news broadcasts, maps and contacts with other groups during flow periods. The game will run a minimum of 4-5 days.

2. At this point the teacher spells out the instructor's role. The role is to be limited so as not to provide an answer for every problem, but rather to let the students work out their own solutions. He can interpret for students if necessary but his active role should be only during the debriefing period.

3. Selection of students for key roles: 3 senators, 1 secretary, 4 media members. The remaining students will be divided into five interest groups.

4. Each group is to choose a number from one to five. After choosing its group number, each is given the number of purchase points which have been assigned to that number.

Group Designations and Purchase Points

Group # 1 - 10 Points
Group # 2 - 20 Points
Group # 3 - 37 Points
Group # 4 - 15 Points
Group # 5 - 30 Points

The groups then select their newspapers.

Newspapers (Sets available - purchase price).

The Down River Press (A series of government interviews)	3 sets	7 purchase points
The Council (An Indian View)	2 sets	3 " "
The Local Observer (A small town outlook)	5 sets	5 " "
The Metropolitan Gazette (A world-wide outlook)	2 sets	15 " "
The Friendship Journal (A social-activist perspective)	1 set	7 " "

Each member of the group will receive a copy of the newspaper selected, but newspapers will not be distributed until the next day. Group decisions on newspaper purchases are binding. The teacher does not identify the objectivity or bias of the newspapers.

Second Day.

1. A radio program of continuous music is provided throughout the second day.

2. A newsflash (developed from the newspaper information given the media people) will be given immediately to settle groups and to provide general background information for all groups.

3. Newspapers are distributed according to the previous days purchases.

4. Students are given time to read the newspapers and interact in their own groups. During this stage, a second newsflash will be given.

5. Students are given a flow period before the end of the class. A third newsflash will be given at this point. Students thereafter return to groups to organize presentations for Senators, and interviews by the media team.

Third Day.

1. Newsflash: "Senate gives its final decision today regarding the construction of the dam."
2. Distribute role cards (see roles).
3. Groups not seeing the Senators will be interviewed by the "White Paper" team (media personnel), or they may be working on their presentations to Senators before they meet them.
4. By the end of the class period the Senators should announce their decision regarding the construction of the dam. The media people could announce the decision with a newsflash, for the Senators do not have to meet with the class to announce this decision. (The Senators present the basis for their Decision on the fourth day.

Fourth Day.

1. Senators must explain their position on the vote.
2. Media people present their own views and state why they take this position.
3. Teacher debriefing begins and it goes as far as the individual teacher wishes to pursue the ideas identified in the debriefing.

ROLES

A. Senators (3)

1. Pepe LePhew

   a) majority leader in Senate; b) head of sub-committee on Indian affairs; c) chairman of Finance Committee; d) head of Public Works subcommittee; e) interviews at least two groups; f) senior Senator from the south; g) not to discuss his position with groups that he does not interview formally nor with other Senators; h) has 5 votes.

2. Ned Noodle

   a) home state Senator; b) committee member of Foreign Relations Committee; c) member of subcommittee on defense of tariffs;
   d) no limitation to number of groups he may see;
   e) not to discuss his position with groups not interviewed nor with other Senators.
   f) has 2 votes.

3. Dan Tepee

   a) Senator from far west;
   b) junior Senator;
   c) member of subcommittee on tribal lands;
   d) member of subcommittee on urban affairs;
   e) member of committee on banking and finance;
   f) no limit to the number of groups he may see;
   g) not to discuss position with groups not interviewed nor with other Senators;
   h) has 2 votes.

B. Secretary

1) to regulate access of groups to Senators;
2) to encourage specific groups through memos to see Senators if they have not requested to do so.

C. Media People (4)
Two T.V. and 2 radio personnel prepare newscasts from only those ideas found in the Down River Press or the Local Observer. This means media are given two newspapers on first day.

They prepare T.V. "White Paper" based on interviews with groups not involved with Senators. Possible title: "The View of the People. "

D. Role of the Five Groups.
Their purposes are to formulate positions regarding the construction of the dam for presentation to the Senators and Media personnel.

III. Debriefing: An Inductive Approach.

The debriefing is designed to clarify for the students that the game's value is not in the resulting decision involving the construction of the dam, but rather in the value of the various skills developed, the attitudes involved, the learning processes used, and the content. This period is the key to the success of this game. The open-ended nature of the game is reflected in the number of choices offered to the teacher in the following list. Teachers may be selective in deciding which of the following debriefing elements are to be included; however, all elements should be used inductively.

To show there are many relevant elements to a problem, and that as many of these elements as possible should be examined to show the linkages and significance of the hypothetical game to real life.

To review and tie together significant elements of the game so that those receiving only a portion of the information will eventually see the entire situation.

To have students identify the information that they would have liked to have had to permit them to arrive at a more objective or effective decision.

To demonstrate that each individual's background predisposes that he perceive situations in such a way as to influence his actions and decisions during the experience.

To lead students into a discussion concerning the various ways in which they obtained information.

To have students describe the types of information they relied on most/least, and have them describe what type they feel has the greatest impact on a real life situation --audio, visual, audio-visual, printed matter, interviews.

To show the students that regardless of how well the decision makers analyzed the relevant elements involved in the game, it should not be assumed that this will always be the case in real situations.

Have students analyze how their group functioned.

Have students realize that some political channels are more influential than others.

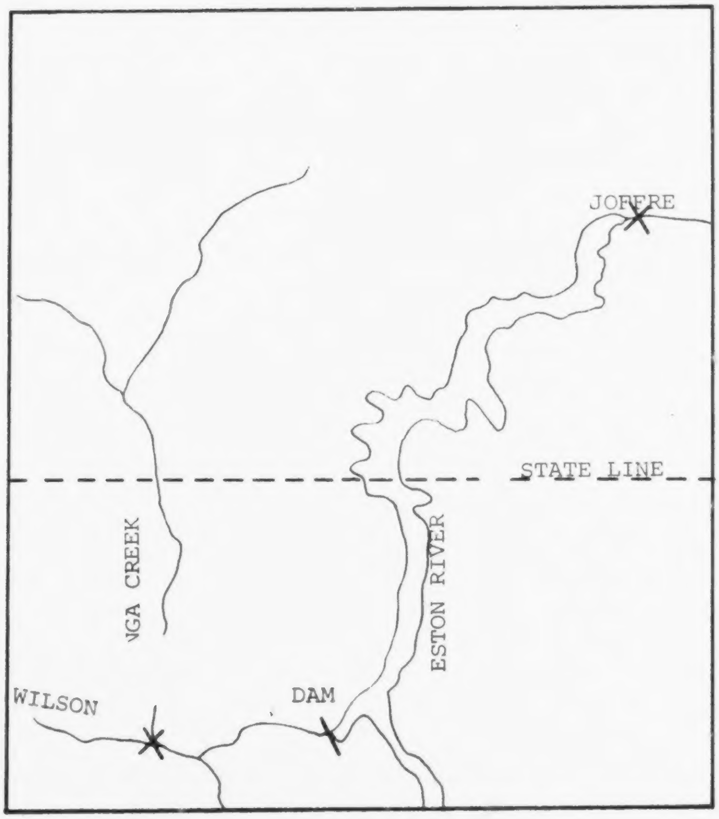
Have the students understand how to read a newspaper -- a paper is more than sports and comic strips, that the size of the print and headlines are important.

Have the students identify the frustration that entered the game when students did not have access to all sources of information.

Discuss with students the concepts of volume, velocity, and selectivity of information to have them develop an understanding of how these concepts influence decisions.

THE DOWN RIVER PRESS: A SERIES OF GOVERNMENT INTERVIEWS

Vol. 1698, No. 5 Jefferson, Carvania 7 points



Kilbert Project

An Interview with General Wilbur, Head of The Corps of Engineers

General Wilbur in responding to questions about the Kilbert Dam stated: "This city will be spared the ravages of flood waters from the Eston River upon completion of the Kilbert Dam. This flood control is not the only benefit; during the low water season adequate river level will be assured by the release of water held in the 550,000 acre/foot reservoir created by the Dam." He continued, "The 160 foot high dam when completed will create a lake with 300 miles of shoreline."

In response to a question about Indian outrage, General Wilbur stated, "the lands to be flooded, permanently or intermittently, include approximately 10,000 acres on the Eston Reservation, one of three reservations of the Sacne. These 10,000 acres are about one-third of the entire acreage within the Eston Reservation. According to estimates by the Corps of Engineers approximately 5,000 acres of Sacne land within the taking area will be available for use by the Indians for farming, grazing, hunting and other similar purposes, but not for habitation. Only 127 families will be moved as a result of this dam. When we built the great Bonneville Dam in Oregon we moved 6,000 people with very little disturbance."

By Clark Kent

- -

Courts Decide for the Right of Government to Take Indian Land

The Sacne nation contested in the courts the authority of the Corps of Engineers to condemn land and to construct the project. They held that the Treaty of November 11, 1794, which reserved these lands to the Sacne had been violated in that the treaty provided that the United States would never claim the land nor disturb the Sacne nation in its free use and enjoyment thereof.

However, the treaty also provided that the land shall remain in the possession of the Sacne until they choose to sell the same to the people of the United States who have the right to purchase.

The Sacne nation lost their suits, and the District Court decided that Congress had authorized the taking of the lands. The opinion was handed down by the U. S. Court of Appeals, District of Columbia. In supporting this position, however, the issue of moral responsibility of the Sacne was raised. The United States Supreme Court refused to consider the case.

- -

Bill's Gossip (Newsworthy Notes?)

A well-placed government official has stated that money should be coming in next year's budget to begin the Kilbert Dam. It appears that many of the obstacles have been removed in the long struggle to build the dam.

. . . .

The appearance of Senator LePhew on the Johnny Frost show last evening showed the importance of the Finance Committee and gave me a new look at the operations of the Senate. Who would have imagined it took so much work on the part of this one man to get a bill through the Senate?

. . . .

We see where Governor Mortan of Newstate is on his way to Mexico for a three week vacation. I just wish I could get one week off. Some people have all the luck.

Bill Carson

To The Editor:

How many times do you lose before you lose?

I've watched the political "progress" of the much-needed Kilbert Dam. As a citizen of Jefferson, I believe any further delay in its construction will be disasterous for all those people living in the Eston Valley. The Sacne Indians lost their appeal in the courts when the courts decided that Congress had authorized the taking of the lands. Why has Congress not acted to authorize the funding? Senator LePhew has said it all when he stated, "The delay in constructing the Kilbert Dam has cost thousands of people untold suffering from devastating floods which hit the Eston Valley every year." How many times do you lose before you lose?

Joe Harper, Jefferson, Carvania

THE COUNCIL: AN INDIAN VIEW

Vol. 6 No. 2 Eston, Carvania 3 points

The Land Is Your Mother

Senator LePhew, powerful chairman of the Senate subcommittee on Public Works, asserted yesterday, "The completion of this dam will be but a minor inconvenience to the Sacne Tribe. As a matter of fact, it will be a silver lining behind a temporary black cloud. The dam will cause no great loss to these people, since all property rights will be protected by eminent domain proceedings." This thinking reflects the cultural views of most non-Indian Americans. Most Americans believe that land can be taken from anyone so long as it is paid for. However, to the Sacne and most other American Indians, land is irreplaceable. "The land is your mother. You do not sell your mother."

- - - - - - - - - - - - - - - - - -

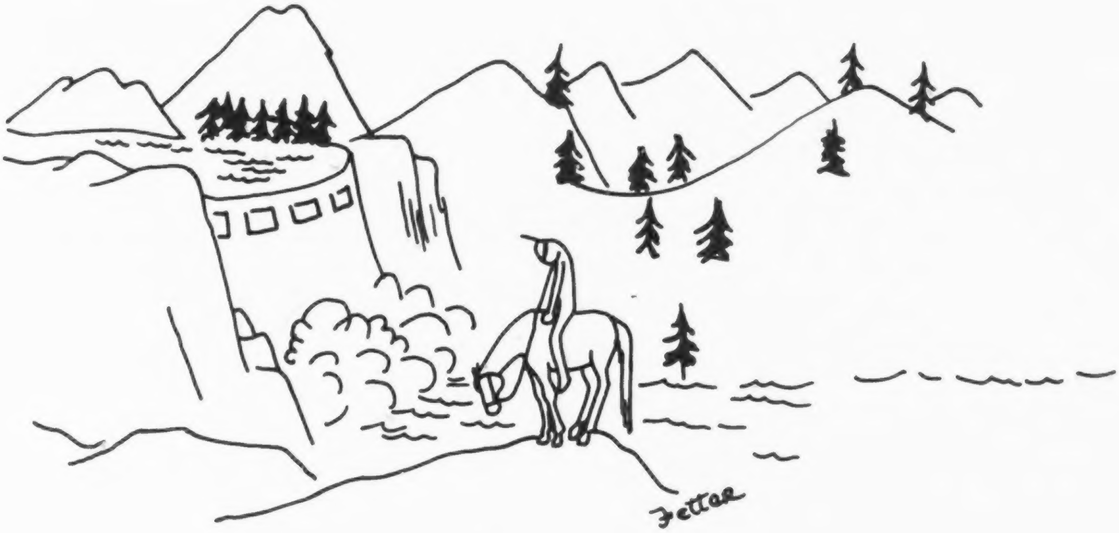
Indians To Accept Mandate of Dam Study Commission

In an interview with John Wildtree, staff writer for The Council, at the annual council of nations meeting to discuss the proposed dam, Chief Little Horne said that "It has always been the position of my people that we will abandon our opposition to the Kilbert Dam if and when it is shown by competent and objective investigation that (1) a dam is necessary and (2) that there is no feasible alternative to the proposed sight. We have never ceased to be deeply concerned with the welfare of all mankind and will do everything within our power to cooperate in bringing to fruition our country's quest for sufficient water and to control the floods which have been so devastating to the property and lives of our white brothers."

Chief Little Horne went on to say, "if the dam were deemed necessary the Indians would be willing to sit down with representatives from the U. S. Government to negotiate revision of the treaty."

This seems to be a position not acceptable to the U. S. Government because of the special interest groups that have invested large sums of money and time based upon assurances that the Kilbert Dam would be built. Again the Indian land is sacrificed even when a possible alternative plan exists.

* * *



Will The Trail Of Sorrow Never End?

S-6-482

A Solemn and Demanding Obligation

Can there be any harm done if the proposed Kilbert Dam Project is postponed? Our country faces many demanding and grave problems, but let us not forget the tremendous concerns of the Sacne Tribe when they offered a new struggling government their help, rather than accept the offer of a foreign government to harass a very weak, young America.

One basic tenet of our democratic way of life has always been the end does not justify the means. That is, it is not permissible to play the game by any rules (the means) just to achieve victory (the end result). If the honor of America can best be served by a delay of the project so that the alternative plan can be considered, then the cost of a little delay would not be too expensive. The honor of America must not be mocked by forgetting our American heritage.

Editorial: Case to Be Appealed.

The Federal Court of Appeals in Washington held that Congress had approved the taking of the Indian land for the Eston River flood control project. The decision apparently was based primarily on the legislative history of the project. Prior legislation was created in as far back as June 20th, 1923 and June 26th, 1933. Funds were provided in 1944, and because of this the Court felt Congress had every right historically to create such a project.

It is interesting to note that the morality of taking land which was forever to be Indian was never considered. In fact, the historical argument was not to be applied when considering the fact that the Indian was given the land in 1794--long before the 1933 date which the Court of Appeals found to be so significant. But then, it has always been easy for the "White Father" to forget historical promises made to the "Red Man", and actually, who really remembers the drunken Indian Ira Hayes? The Indian made the nickel in America, but he never made the dime. His contributions have always been considered limited in value, so it has been easy to justify the many wrongs done to him.

To The Editor:

It would be interesting to see the American public awaken some morning to the following headline: Metropolis Is To Be Used To Create An Estuary So Vitally Needed In America's New Ecology Drive. What would be the nature of outcries heard from the various public and economic interests? In fact, the economic interests would never have allowed such an event to be considered, regardless of whether it would be logical or illogical. Apparently right is not as important in America - land of justice - as money. If only the roles could really sing with feeling

You bring out your medicine man;
you bring out your squaw -
and we will give you justice,
under Indian law.

Charlie Redfeather

LOCAL OBSERVER: A SMALLTOWN OUTLOOK

Vol. III, No. 25 Wilson, Carvania 5 points

Chamber of Commerce Report

After an interview with Mr. Johnson at the weekly Chamber of Commerce meeting last night, Joe Ramblaski returns the following.

Question: Mr. Johnson, why has the Chamber of Commerce supported so strongly the Corps of Engineers proposal for the Kilbert Dam?

Answer: Mr. Ramblaski, since 1948 we have had three major floods, each causing over $500 thousand dollars damage just here in Wilson.

Question: Why has the Chamber of Commerce opposed consideration of the alternate proposal offered by the Sacne tribe?

Answer: The Corps of Engineers has completed extensive studies including test borings at Devils Elbow and to consider an alternative at this point is defeating the purpose.

Question: Do you believe your group reflects the feelings of the community at large?

Answer: Well, yes, our group represents a cross section of the community and we are 100 percent behind the government proposal. Now don't misunderstand me, I am sure you can find a few people here in Wilson who are not in favor of the dam. But then, you will always find a few oddballs in every community.

Question: Can you name anyone who doesn't share your view?

Answer: I don't know anybody here in Wilson but you might find a few up the river.

Question: You're referring to the Sacne Indians and leftists?

Answer: You do not have to be too smart to see that "those outsiders" are, up there, creating a scene.

Question: Mr. Johnson, it seems to me you must have quite a few fishermen in this area. Are they in favor of the dam?

Answer: I don't fish, and as I told you I don't know anybody who opposes the dam.

Question: Whom do you think will benefit financially from the building of the Dam? What other than the savings will people realize as a result of protection from flood control in the future.

Answer: As you said, the major savings will be those resulting from no floods. Of course, our city will be the center of activity for the builder when the dam is started. We have estimated that in the neighborhood of $3 million will be spent over the two years to complete the construction.

Question: Do you see the county becoming a service area for recreation activities in connection with the lake formed by the dam?

Answer: As you know, most of the development of the dam will be the responsibility of the United States Forest Service and until its master plan is a reality we can't say for sure how much we will gain from this project.

Question: Just one more question; What percentage of the people here in Wilson, would you say, are in favor of the plan?

Answer: In a sense I have already stated that, but if you want percent figures, I would have to say 93% in favor of and 7% against.

- - - - - - - - - - - -

T. V. HIGHLIGHTS

7:30 (6) PLANT WORLD--The Mojave Desert, the dry wasteland in the west, one of the least understood regions on earth, is studied.

(10) PISTOLESMOKE--"The Train"; Marshall Dillon is escorting prisoners to county jail and runs into renegade Indians who demand the murderers of Chief Lightfoot's daughter, Heavy Toe. Ethically the good Marshall will not give up his prisoners and challenges Lightfoot to a race home in order to see who breaks the tape. Also, a wild party is given by Miss Kitty.

11:30 (3) THE JOHNNY FROST SHOW--Tonight's show features the following guests: Three-Dog-Night, Ray Charles, Raquel Welch and Senator LePhew, the noted Senator from Virginia.

Editorial: Fry on Fish

by Charlie Fry

Well folks, again it is time to discuss that new "rumor" which has been infesting our community. When we were boys the old swimming hole was a relief from the heat--ah yes, the old swimming hole. And all of it belonged to us. We didn't have to worry about new fangled motor boats, and an invasion of all those urban, fad-seeking, and new-thinking outsiders coming here to use it, like we will with the new "rumored" lake. (As previously mentioned, this old boy refuses to acknowledge the proposed project.) And, this issue doesn't stop with our old swimming hole.

Zap! The feeling of that first fish striking that line, and the eventual cooking of that fish with a few strips of bacon on a cold morning. Oh, that smell! Well, forget it gentlemen, that "rumored" dam will create "wildfire" havoc with our favorite river fishing places. The temperature changes and the stirred up sediment will affect our fish. Why, everyone knows our fish wouldn't want to live in such water. I guess those outside frogmen like it--that's one of the new recreation promises we hear about. (And anyway, flooding was good enough for my father and his fish.)

The weather looks great for fish--so better get out while the getting is good and invite the "old fishermen over for that fish fry."

Charlie Fry

- - - - - - - - - - - - - - - -

To The Editor:

The "old fisherman" hasn't destroyed his image, he's as unscientific as he was before I went away to college. Let us try to study the proposed dam project in a more rational manner. First of all, the temperature change will stimulate algae growth; and secondly, the temperature change will not be bad for the existing species of fish and will actually allow an introduction of new sporting types. Sediment, yes, but a mere flash in the pan, (to borrow a favorite phrase from his royal highness), over before it is realized. In regards to the old swimming hole, imagine the new facility, large enough to benefit a larger, more needy society.

Wilfred Tate, III

ed. note

Doesn't college do wonders for our young? No sentiment, just cold, hard facts. Possibly Jim should return to the "old swimming hole". Some of the old-fashioned sentiment just might bring him into contact with reality.

METROPOLITAN GAZETTE: A WORLDWIDE OUTLOOK

Vol. 78, No. 7 Metropolis, Newstate 15 points

Kilbert or Kilanga-Courase

Due to the tremendous controversy that has been generated by the two proposals submitted for flood control, and the great number of rumors and half truths that have been circulated, it is necessary to view both plans objectively, being sure to take into consideration the information available on each project.

The Kilbert Dam Project is to be constructed to control flooding and provide for a steady flow of water during the "Low Water Flow" periods of the year on the Eston River. A dam with a storage capacity of 745,000 acre feet of water during flood periods and 550,000 acre feet of water for increasing low water flow will be constructed just north of Wilson. The dam will flood all of the Eston Valley to the north in Carvania and two-thirds of the usable part of the Sacne Indian Reservation in Newstate to the city of Erringville. At the time this controversy began, initial construction had already started on the Kilbert Project. The Army Corps of Engineers' investigation shows the Kilbert project to be less expensive, displace fewer people, and flood less land than the Kilanga-Courase Project.

The Kilanga-Courase project, if constructed, could divert water from the Eston River through a six mile channel into Lake Northern. This project would have a storage capacity of 1.5 million acre feet of water and would be adequate for all flooding situations as well as serving low water needs during the drier season. In the case of consecutive floods occurring in a short time period, excess water could be passed out through a channel to Lake Northern, whereas the Kilbert Project must empty flood waters after each flood with no place for excess water. Dr. Smith said that his plan will not flood the Eston Valley which includes, aside from the Sacne Reservation, recreation areas, railroad lines, and roads. But also it will give greater water flow for the Eston River during the drier parts of the year. Possibly of great significance is the fact that no government organization ever did an objective study of this plan.

THROUGH AMERICAN INDIAN EYES

In order to understand the Kilbert controversy, Americans with different cultural backgrounds have to look at the Sacne problem through American Indian eyes. In 1960, when George Crane was President of the Sacne Nation of Indians, he made the following statement to the House Subcommittee on Indian Affairs:

> "My name is George D. Crane. I live on the Eston Reservation in Newstate, and I am President of the Sacne Nation of Indians. I appear before this Subcommittee today as an official representative of my people to express once again their unaltered opposition to the construction of the Kilbert Dam. As you know, this project will flood the heart of our reservation homeland (which we Sacnes have peacefully occupied since the Treaty of November 11, 1794, under the protection of the United States), and will force the relocation of more than 700 members of the Nation.
>
> Before starting the main part of my remarks this morning, I would like to clear up several misstatements which were made to this Subcommittee during the hearings yesterday. My friends from Carvania seem to believe that some Sacnes are willing to sell their lands. I do not know where these witnesses got their information, though I suppose every group, even an Indian nation, contains a few unhappy people who will sell out their birthright. I do know that the overwhelming majority of my people, including every councilman and other tribal leader, both in and out of office, is trying desperately to save our reservation. The thought that we would freely give up the lands of our ancestors, which we are pledged to hold for our children yet unborn, is so contrary to the Sacne way of life that it is not even considered seriously.

Next, my friends from Carvania have said that the Treaty of November 11, 1794, was abrogated when all Indians became citizens in 1924. I would like to point out that the 1794 Treaty was signed by the Sacne Nation, not by individual Sacne Indians, and the Nation has not yet become a citizen. It remains today exactly what it was 165 years ago--in the words of the courts as reported to us by our attorney, Mr. Lewis, a 'quasi-sovereign dependent nation'! More important, our tribal lawyer tells me that the Supreme Court of the United States has held not once, but at least a dozen times, that the grant of citizenship does not affect any Indian treaty rights or in any other way change the special relationship of Indians and their property to the Federal Government. I am not an educated man, but it seems very strange to me that these lawyers from Carvania are willing to say that the Supreme Court ruled against the Sacne, when it did not even hear the case, while at the same time they are ignoring a whole series of actual Supreme Court decisions which go against their arguments.

Now let me tell you a little bit about what the Kilbert Dam will do to my people. Our own census shows that over 700 members of the Nation or more than half the population of the Eston Reservation will be forced to move because of the reservoir. On paper, this does not seem like very many people; other lands and substitute houses can be found, say the supporters of the project. If you knew these Sacne the way I do though, if you knew how much they love that land--the last remnant of the original Sacne country--you would learn a different story. To lose their homes on the reservation is really to lose a part of their lives.

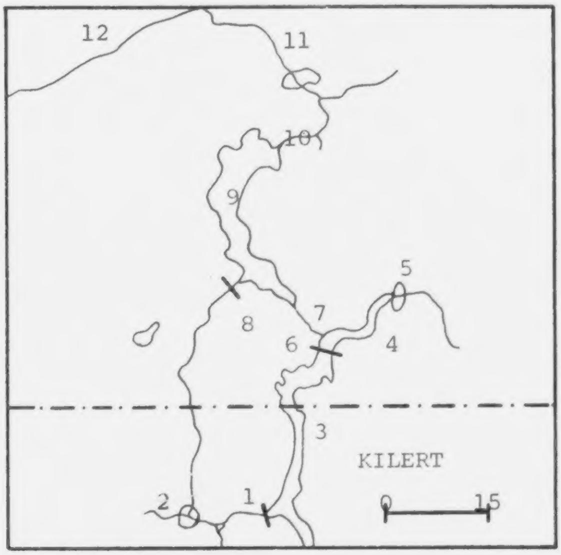
The Corps of Engineers will tell you that Kilbert Dam will flood only 10,000 out of the 29,000 acres within the Eston Reservation. What the Corps does not say is that this 10,000 acres includes almost all of the flat lowlands and fertile riverbanks, while the remainder of the Reservation is inaccessible and thus virtually uninhabitable mountainside. What the Corps also does not say is that during the dry season these 10,000 acres will not be a lake but rather muck and mud flats. What a pleasant yearly reminder, what an annual memorial to the breaking of the 1794 Treaty that will be!

Lastly, I know it will sound simple and perhaps silly, but the truth of the matter is that my people really believe that George Washington read the 1794 Treaty before he signed it, and that he meant exactly what he wrote. For more than 165 years we Sacne have lived by that document. To us, it is more than a contract, more than a symbol; to us, the 1794 Treaty is a way of life.

Times have not always been easy for the Sacne people. We have known and we still know poverty and discrimination. But through it all we have been sustained by a pledge of faith, unbroken by the Federal Government. Take that pledge away, break our Treaty, and I fear that you will destroy the Sacne as an Indian community.

S-6-488

The Sacne Nation always has taken the position that we will abandon our opposition to the Kilbert Dam if and when it is shown by competent evidence that the existing plans of the Corps of Engineers are better than any alternative plans. The facts are that Dr. Smith's study has revealed an alternative, the Kilanga-Courase plan, which appears superior to the authorized project. For this reason, we urge that the Committee pass H. R. 703, which would provide an independent investigation of the merits of the two proposals."



Alternate Proposals

The map illustrates the two possible alternative developments of the Eston River area. The Kilbert project consists mainly of a dam (1) at Kilbert just above the city of Wilson (2) the dam to be 160 feet high and will protect the valley below it against floods by storing water for a few days until it can be released safely downstream. In addition, it will store about 550,000 acre feet of water for increasing river flow during the low water season. It will completely flood the usable part of the Eston Valley above it in Carvania (3) and 2/3 of the usable part of the Sacne Indian Reservation in Newstate (4) reaching the city of Joffre (5).

The Kilanga-Courase alternative consists of a low diversion dam on the Eston at (6), a diversion channel (7) to pass water in either direction, a dam (8) on the Kilanga creek to create a reservoir (9) which can store about 1.5 million acre feet of water for low flood augmentation, an outlet channel and control works (10) to let unwanted excess flood waters overflow into Courase Creek (11) and then into Lake Northern (12).

S-6-489

Sacne Nation to be Compensated

In Congressional action between 1963 and 1964, the U.S. Government provided for compensation to the Sacne Indians for abuses due to the proposed construction of the Dam. (Kilbert)

On February 7, 1964--H. R. 1794 passed the House. The Senate opened hearings on H. R. 1794 as it had passed the House and on March 30, 1964, passed an amended version of H. R. 1794 and S. 1836. The principal differences in Senate and House versions appeared in Section 4 relating to the amount of funds provided for rehabilitation. While H.R. 1794 provided for nearly $17 million for rehabilitation, in addition to $3 million for direct and indirect damages, the Senate version would have cut back the rehabilitation funds to $6 million.

A conference committee was appointed which reached agreement on a total settlement of approximately $15 million, more than $12 million of which would be allocated for rehabilitation purposes and the remainder for direct and indirect damages. The measure, as it came out of the conference committee, was passed by both Houses on August 31, 1964, and became law with the President's signature.

This material compensation does not, however, deal with the moral issue which has been posed by the Sacne Indians. Does the United States Government have the right to unilaterally break a treaty which was entered into in good faith by representatives of two peoples over one hundred and sixty five years ago; even if the Indians are paid off?

THE FRIENDSHIP JOURNAL: A SOCIAL ACTIVISTS PERSPECTIVE

Vol. 82, No. 12 Lesscare, North Colina 7 points

JUSTICE GREEN DISSENTS

Justice Jerry Green, a long time Supreme Court Justice, in his dissent to the final decision of the Supreme Court to allow the taking of Indian lands for a flood-control-power project; writing for himself, Justice William Snoot, and Justice Henry Westerland, in summary, presents this alternative which may possibly clarify this present land conflict with the Sacne tribe.

> The conflict which has arisen over the Kilbert Dam Project is not one which will be easily decided. There are many factual as well as emotional factors which will enter into the final decision. Perhaps one can find some meaning in an examination of a parallel situation, which involved a land conflict between the United States government and another Indian group.
>
> The question arises, why do these Indians hold so strongly to their lands and old culture? Are these lands that fertile, the topography that beneficial, the view that outstandingly beautiful, or their houses so well made as to be architectural examples to future generations? The answer to the above is no--but one overwhelming yes

must be identified--and that is this land is their ancestral home--the land of tribal birth, death, pain, happiness and all the other human feelings that ties man to life. The Indian has his remembrance, and he has his love. There is more to life than money, and certainly there are certain things which can't be priced, and are worth more than dollars and cents.

Although it has not been mentioned to us, there are probably cases where Congress has broken their word with the Indian. It is not so important whether it has or has not, but I know it is here. It is regrettable that this court is the governmental division that is breaking the faith with these dependent people. Strong nations, like strong men, should keep their word - breaking of the faith is impermissible.

There are many who feel that our nation should uphold the original treaty and carry out their moral responsibility to the Indian, and to allow them to keep their homeland.

- -

ANOTHER VIEWPOINT

Steve M. Stavor, an expert on Indian society writes the following: "The new dam has been troubling the Sacne tribe for many years, for it threatens their homes, river basin, and society's way of life which sustains their religious-like existence. The dam would cover their forefathers, and destroy the holy area where their shaman spoke. The Indian does not wish to sell his land for money, for the land is a part of him. Money passes on, but the land must be on-going. The land expresses his existence.

How this nation handles and resolves this issue is of more interest internationally than many Americans realize. There are many non-committed nations in this explosive world waiting to see the justice in which the United States treats these minority peoples. The Indian is recognized all over the world as a culture, one which has often been mistreated.

Let us not so easily erase a culture and its environment, since the two are so closely related, unless we are willing to examine all alternatives. The Indians with whom I talked about this problem have absolutely stated that the dam would destroy their culture by stopping them from pursuing their religion, destroying their mental health because of having separated them from their religious supernaturals, and by spreading them in such a fashion as to make it difficult for them to continue their way of community life.

The religion of the Sacne Indians is still being practiced, for many members still marry, are named and are buried by the established practices of the Long-House sacraments. His ceremonies are still a vital part of his religious beliefs. The greencorn harvest dance, mid-winter sundance and buffalo dance are events with religious meaning. according to their religion, a child would pass away if it did not receive a name before it lives one year. The Indian is tied to the land, he is tied to his religion, and his religion is no less sacred than your own. To guarantee the basic beliefs underlying American democracy--the pursuit of happiness, the right to life, liberty, and property--one must examine the side of the aggrieved party as well as the government's position."

- -

AN INDIAN LEADER SPEAKS

The great Sacne Indian Nation signed a treaty with the United States government in 1794. The Nation did not beg for this Treaty, for at that time it was a powerful organization which, if it had agreed to ally itself with an enemy of the new nation, could have drastically influenced American history. The treaty was made in honor, neither side signing on bended knees. For signing this treaty and thus promising not to help the enemy of the United States, we received various lands which were to be ours forever. It was our belief that the President's word was to be trusted. We gave up all other lands, and in return we were never to be bothered on our land, nor was the government to lay claim to our lands.

But the times are changing, or rather have long changed, for our Indian nation is no longer to be feared, and the United States is no longer a weak, young nation needing our assistance. Now the President's word can be changed, and the Congress of the United States has the power to break his word. But might does not make something right, and the United States must honor the Treaty. The government must allow the old agreement to continue--the Kilbert dam must be denied. The Dam if allowed would go against Article III of the 1794 Treaty with the Sacne Indian Nation, and this is against the commitments of the United States in dealing with every tribe of Indians, not just our own. The honor of the United States must be kept. Stop the project. Have all alternatives examined. Allow the merits of the alternatives to speak for themselves.

S-6-492

Issue: Political Power: The Games People Play.

Topic: Responsive Government: Who Decides?

Title: "Urbanville: A Case in Decision-Making."

Descriptor: Many controversial issues have centered on the location of local industry, multiple housing, airports, etc. Zoning changes are generally needed to permit the location of these facilities. Problems occur in the local hearing where councilmen weigh issues presented by public and private interest groups in order to decide whether to change the zoning to accommodate proponents. In this session, roles will simulate people involved in a proposed zoning change in a hypothetical community.

Discussion Leaders: Robert Anacker, Jack Benny Junior High School, Waukegan, Illinois and Lynn Swanson, Jack Benny Junior High School, Waukegan, Illinois.

* * * * *

"URBANVILLE: A CASE IN DECISION-MAKING."

I. Planning Strategies for the Public Hearing.
   - A. Distribute all numbered role cards to students and assign one role to each student (randomly or to certain students of your choice.).
     1-5 - citizens living adjacent to proposed site.
     6-14 - citizens generally opposed to proposal.
     15-23 - citizens generally in favor of proposal.
     24-30 - Councilmen
   - B. Distribute to all students.
     1 article from the Urbanville Herald.
     Urbanville Land Use Map.
     Urbanville Zoning Map.
   - C. Students:
     Read their individual roles plus all others, and form groups on the basis of their interests as they perceive them.
     Plan their strategies/presentations for the public hearing.

II. The Public Hearing.
In public hearings, interaction between citizens and councilmen is not usually allowed. Councilmen are instructed to listen to citizens present their cases. Debate between citizens and other citizens or citizens and councilmen does not usually occur.
   - A. Suggested pre-vote procedures:
     Allow people to speak only once and for a fixed length of time.
     Order the speakers so that proponent follows opponent follows proponent and so on.

B. After citizens speak, the instructor will call for a public roll call vote of the Council. A simple majority of those present and voting decides.

III. The At-Large Election.

As a follow-up procedure you may wish to hold an at-large council election to determine how consistent with the community will has been the public roll call vote of the councilmen.

A. Have students announce their candidacy for the seven council seats. The incumbent councilmen may be candidates for re-election. Each voter votes for not more than seven candidates.

B. Instruct the candidates that each is to make a short public speech based principally on the outcome of the zoning vote.

C. After speeches are given, students should be given time to evaluate the candidates for office and to build strategies.

D. Hold election by secret ballot. The seven highest totals determine the successful candidates.

Urbanville Role Cards

Citizen #1:

You are very proud of your sixty-five year old home which is located across from the housing site. This home captures part of the history of the city. You are a reputable automobile dealer in a nearby town and your income is well above average. You are very concerned about preserving something of the rich past of the city. Because of this you are somewhat wary about the word progress and what will result from too-rapid change.

Citizen #2:

Your home is forty years old and is located directly across from the proposed housing site. Your home is well kept for its age, although this structure does require a great deal of upkeep. For the past several years you have been the city maintenance director. This places you in a position to know the adequacy of the city's facilities in terms of water supply, sewage disposal, etc. Your income level is somewhat above-average. You are concerned about the proposed low-income housing project and how it will affect the city's sewer and water facilities. You are also concerned about the possible increase in work that might be placed on your department.

Citizen #3:

Your home which is located across from the proposed site is twenty-five years old and only in fair condition. Because of your modest income, many of the needed improvements have had to be left undone. This home is an advantage to you because of its nearness to your place of employment. You are presently employed as a school custodian and have held this job for many years. Your income is less than average and therefore your budget is very limited in purchasing power. Even though your income is below what you want, you prize the security in your position. Since the school at which you work is located near the proposed site, you are worried about the additional number of children who would attend. This might increase your workload and create more school problems.

Citizen #4:

Even though your home is seventeen years old, it is in very good condition. You enjoy maintaining your home and consider this as a hobby. Because of this the value of your home has greatly increased. You are an electrician by trade and very proud of this fact. You were born into poverty and realize the value of decent housing to a family. Such a project could provide you a lengthy period of employment.

Citizen #5:

Your home, adjacent to the proposed site, was built twelve years ago and remains in excellent condition. The upkeep of this home takes a considerable amount of your free time. You are a factory worker in one of the local industries which experiences great changes in the demand for workers. Your parents are retired and live on fixed incomes. If the housing project is built they might become occupants. This would also allow them to visit the children more often. You question whether or not these low-income housing projects lower property value.

Citizen #6:

You are a well-to-do senior citizen who was born and raised in Urbanville. Much of your free time is spent working with the city's historical society. You believe such a housing project definitely would ruin the historical beauty of the city.

Citizen #7:

You live in a modest home which is located several blocks from the proposed site. You fear that if passed, other such zone changes would occur throughout the city. As a result, you feel property values would decrease.

Citizen #8:

You are one of many individuals who are having sewage problems. Recently your basement was flooded and you suffered extensive property damage. A plumber tried to correct the cause, but felt that the proper correction should be in the city's overtaxed sewage system.

Citizen #9:

You are presently employed as one of Urbanville's police officers. The department feels that an increase in traffic problems would result from the proposed development. Furthermore, it is believed that the crime rate would rise significantly in that area. Such factors would certainly jeopardize your safety in your job.

Citizen #10:

You are a landlord who owns several run-down dwellings throughout the city. The fear of losing some or all of your tenants makes you hostile toward the low-income housing project. You have for some time considered improving your properties.

Citizen #11:

You have recently purchased a new home in an area zoned for single residential homes. One of the main reasons for purchasing this home was because of the strict zoning code. Your belief is that once an area is zoned a certain way it should not be changed. Because of the proposed change you are fearful that other zoning changes would be made throughout the city.

Citizen #12:

You are a homeowner living in the most modern section of Urbanville. Your property tax over the last year has increased more than one hundred per cent. In your opinion the proposed development would lead to a substantial increase in property taxes. Furthermore, you believe that low-income families should help themselves.

Citizen #13:

You hope to become a candidate in the forthcoming council election. You are against the zone change and low-income housing for several reasons: the cost of the project is, you believe, more than the city can pay; Urbanville does not have the necessary facilities to properly serve the development; and not enough evidence has been given to substantiate the need for multiple low-income housing. You freely express these opinions whenever given a chance.

Citizen #14:

For the past several years, Urbanville has been controlled by one political party. You feel that such control is not in the best interests of the citizens. Therefore, the proposed housing project is merely a means of gathering more election votes. Those who occupy the dwellings would probably be friends of "city hall". You are not opposed to helping those in need, but refuse to support the present administration.

Citizen #15:

You believe there are good qualities in everyone and society must help those in need. You belong to many of Urbanville's civic organizations and have been the president of several. Such a housing development, you believe, will not only aid the occupants, but also the city itself. These people must be helped so they will have faith in mankind. You will try to persuade as many citizens as possible that a zone change must occur for the betterment of Urbanville.

S-6-496

Citizen #16:

You are presently living in a run-down apartment complex. This is attributable to your lack of education and low-income job. Your rent is too high for the amount of living space afforded your family of three children. You barely earn enough money to provide the necessities of life. Improved housing at a lower cost would certainly be of great help to the family. You hope the zone change will be approved.

Citizen #17:

You are to represent the businessmen of a shopping center which is located near the proposed site. Such a development would certainly boost the amount of business in the stores. The merchants feel that such a housing project should be located near a shopping area since many of the occupants probably will not own automobiles.

Citizen #18:

As president of an influential minority group organization, you feel the need to provide adequate housing for low income families. The organization has decided to take some type of action against the city if the zone change is not passed. You feel that the city has not provided equal opportunity for minority groups.

Citizen #19:

As Urbanville's new city planner, you are very concerned about its future. You have developed a so-called "master plan" for the city, part of which centers around low-income housing. Therefore it is very important that changes in the old zoning plan be made when deemed necessary. Since this is the first such change it is important for you to express the need for its passage. Your goal is to help Urbanville become the "model city" of the nation.

Citizen #20:

You are one of Urbanville's medical doctors and are very concerned with achieving healthful living conditions throughout the city. In your opinion the construction of low-income housing would certainly help arrive at such a goal. You also realize that decent living conditions help foster a better environment for raising a family. Your professional commitment has you believe that the above factors should be made known to the community.

Citizen #21:

As one of Urbanville's churchmen you are concerned about helping the needy people of the city. A low-income housing project would certainly be of benefit to such families. As a religious leader, you hope the zone change will be accepted by the city council. You will try to make this fact known to as many citizens as possible.

Citizen #22:

You are the only large-scale building contractor in Urbanville. If this zone change occurs, you would be in a good position to receive the contract to build the project. This would increase your income greatly in the coming year.

Citizen #23:

You plan to become a candidate in the next council election. You are completely sold on the proposal for low-income housing for several reasons. There are many families in Urbanville who live in substandard housing. These people must be given an opportunity to improve themselves. Our city will never become a decent place to live until we remove all slum areas. Whenever given the opportunity you express such opinions.

Citizens 24-30:

As councilmen, it is very important for you to weigh all sides of the issue before casting your vote in favor or against the zone change. Do keep in mind how your vote will affect the outcome of the forthcoming election. Remember that as elected officials you have the responsibility to represent the community.

Urbanville Herald

CLASH LOOMS ON HOUSING ISSUE

Very soon our town will be confronted with a very serious decision. As many of our readers know, Urbanville faces the proposition that low-income housing be located within its political jurisdiction.

Urbanville's semi-public Housing Authority has documented a need for a low-income housing development for the following reasons:

*a vast increase in low-income families during recent years,
*a lack of low- to moderate-cost rentals,
*the drastic increases in the cost of building homes and interest rates.

The Authority's decision to site the proposed development on the only vacant land near the city center was based on several considerations. Because of the financial status of the prospective occupants, the Authority was inclined to consider the availability of cheap, public transportation, accessible school and shopping facilities, and open tracts of land. After several hours of discussion, the Authority presented the proposal to the Zoning Commission, which would have to call a hearing to consider the change in zoning that would be required. Such a change will necessitate strict observance of local statutes and require a public hearing and ultimate decision by our councilmen.

S-6-498

As our readers will recall, the public notice for the hearing appeared in the Herald's Classified Section last Sunday. And even by this early date it is becoming apparent that interest groups are being formed to battle for and against the zoning change.

Residents of Urbanville will have a chance to express themselves on this issue on Tuesday next at City Hall and beginning at 7:30 P.M. All concerned citizens are urged to attend this public hearing to ask their questions and voice their opinions.

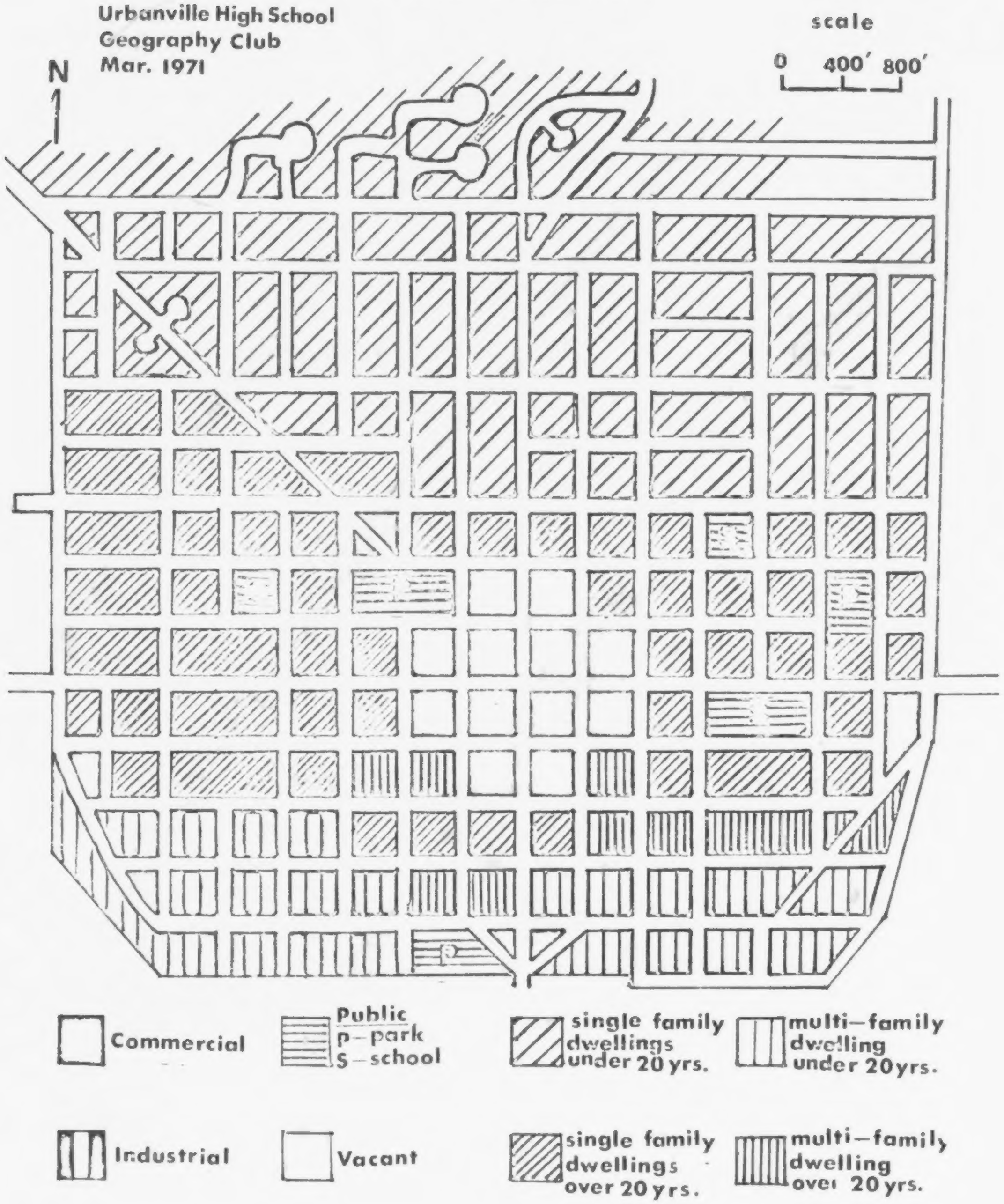
Among the many questions that citizens are asking are:

*Is Urbanville ready to handle low-cost housing?
*Will the appearance of low-cost housing lower the value of the land adjacent to it?
*Will municipal facilities be overtaxed?
*Will this project cause traffic and parking problems?
*Will spot zoning impair the systematic planning of our community?
*Will this project destroy the beautiful old homes of our fair city?
*Will this increase business for our downtown area?
*Who is really responsible to provide aid to lower income people?
*Will our city become a better place to live and do business in or will it become a worse place?

These questions and many like it will be weighed by our councilmen on Tuesday at 7:30 P.M. The Council may be placed in a precarious position in adjudging this issue. Urbanville's at-large Council election will occur just three months from now. Our councilmen will be under pressure to please their constituents in order to retain their positions. Resolution will certainly show politics to be the art of the possible.

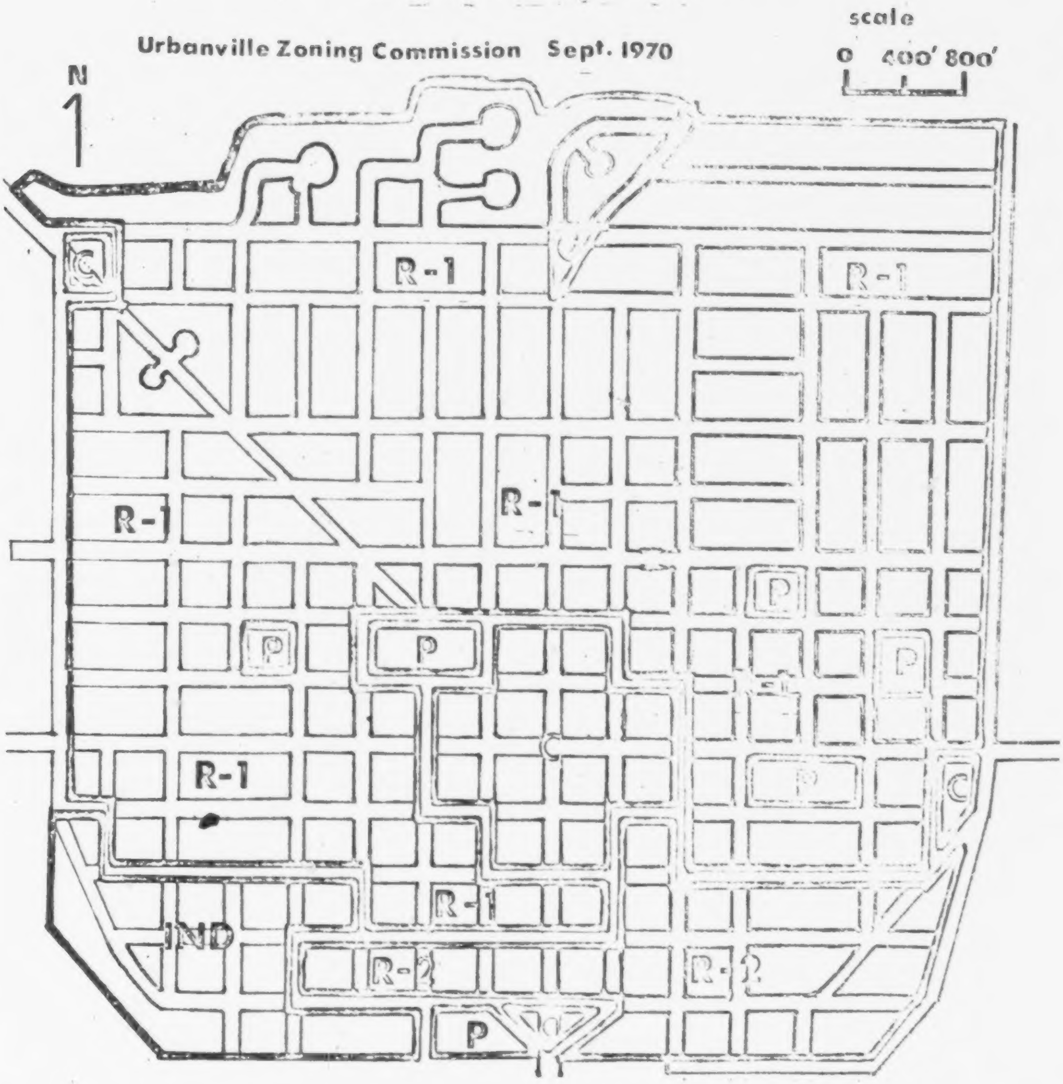
R. L. Swanacker
Staff Writer

URBANVILLE LAND USE


Urbanville High School
Geography Club
Mar. 1971
N
scale
0 400′ 800′
Commercial
Public
p–park
S–school
single family dwellings under 20 yrs.
multi–family dwelling under 20 yrs.
Industrial
Vacant
single family dwellings over 20 yrs.
multi–family dwelling over 20 yrs.

URBANVILLE ZONING

Urbanville Zoning Commission Sept. 1970


scale
0 400' 800'
N
C
R-1
R-1
R-1
R-1
R-1
P
P
P
P
P
C
C
R-1
IND
R-2
R-2
P

R-1 Single Unit Residence

IND – Industry

C – Commercial

R-2 Multi-Unit Residence

P – Public Use

Index

Addison, William S., S-5-405 - S-5-414
Ainsworth, Charlotte, E-3- 58 - E-3- 66
Amberg, Sister Alicia, S-2-327 - S-2-331
Anacker, Robert, S-6-492 - S-6-500
Anderson, Jeremy, E-5-124 - E-5-127
Antonelli, Vincent, S-6-455 - S-6-465
Asmussen, Dennis G., E-5-144 - E-5-146
Barrett, Frank, C-3-223 - C-3-230
Bernard, Richard, S-5-381 - S-5-404
Bill, Erwin, S-5-435 - S-5-443
Bishop, John E., E-6-177 - E-6-180
Black, Richard W., C-5-253 - C-5-261
Blackwell, Diana E., E-4-111 - E-4-117
Bond, Theodore, S-6-474 - S-6-491
Brenchley, David, S-5-425 - S-5-434
Bright, Keith L., S-5-415 - S-5-424
Buchert, Beverly, C-6-262 - C-6-267
Burney, O. L., E-2- 50 - E-2- 53
Callahan, Sister Miriam Thomas, S-2-335 - S-2-347
Cole, Richard, S-1-274 - S-1-280
Como, Charles H., E-4-118 - E-4-123
Croft, Jerry, S-2-311 - S-2-314
Dastyck, Richard, - C-1-191
De King, Leon R., E-2- 45 - E-2- 49
Dickerson, Joan E-4-101 - E-4-105
Dodge, Kay, S-2-301 - S-2-304
DosPassos, Robert, S-6-474 - S-6-491
Duchek, Donna, E-2- 39 - E-2- 44
Fernald, Edward, S-1-294 - S-1-300
Frost, Melvin J., C-3-218 - C-3-222
Garrett, Anne C., E-5-147 - E-5-151
Gommels, James H., S-2-335 - S-2-347
Handley, Leslie, E-4-106 - E-4-110
Halbach, Michael J., S-3-357 - S-3-361
Hagen, Frank, S-2-315 - S-2-317
Haring, L. Lloyd, C-6-270 - C-6-273
Holmes, James, S-6-466 - S-6-473
Howard, Preston O., C-1-186 - C-1-191
Huhn, Bernard, E-3- 78 - E-3- 84
Huke, Robert E., C-2-192 - C-2-198
Johnson, Robert G., S-2-332 - S-2-334
Keller, Robert A., S-1-290 - S-1-293
Kerr, William S., III, C-5-244 - C-5-250
Kozak, Betty Ann, E-5-147 - E-5-151
Kracht, James, E-1- 23 - E-1- 26
Kuchler, Eula T., E-5-128 - E-5-135
Lambert, Jack R., S-5-415 - S-5-424
Landing, James E., E-3- 85 - E-3- 93
LaRue, Berthola, E-1- 19 - E-1- 22
Lewis, Russell, S-1-301 - S-2-304
Link, H. Douglas, S-6-466 - S-6-473
Madden, Jack, E-6-166 - E-6-169

Marcotte, Robert,	S-5-381 - S-5-404
Martorella, Peter H.,	E-6-166 - E-6-169
Mayne, Janice,	S-6-444 - S-6-448
McColl, Robert,	C-4-231 - C-4-233
McNamee, Sister Ann Marie,	S-2-318 - S-2-328
Miley, Robert,	S-6-474 - S-6-491
Miller, Carol,	E-6-153 - E-6-165
Miller, E. Willard,	C-5-251 - C-5-252
Mitchell, Rodney D.,	S-6-466 - S-6-473
Nelson, Phillip,	S-4-377 - S-4-380
Oosterman, Gordon,	E-4- 94 - E-4-100
Owens, David,	S-5-381 - S-5-404
Pemberton, Dixie,	C-3-205 - C-3-217
Pierce, Gregory,	S-6-474 - S-6-491
Putney, Kenneth L.,	S-2-335 - S-2-347
Radz, Michael,	S-4-362 - S-4-370
Richason, Benjamin F., Jr.,	C-2-199 - C-2-200
Roefs, Theodore G.,	C-2-201 - C-2-204
Roseman, Curtiss C.,	S-3-357 - S-3-361
Rueff, Joseph A.	E-5-136 - E-5-143
Rushdoony, Haig A.,	E-1- 1 - E-1- 18
Silberfein, Marilyn,	C-4-239 - C-4-243
Steinbrink, John E.,	E-3- 54 - E-3- 57
Steiner, Janet T.,	E-2- 27 - E-2- 35
Stevenson, Margaret,	E-2- 36 - E-2- 38
Stoltman, Joseph,	S-6-449 - S-6-454
Swanson, Lynn,	S-6-492 - S-6-500
Teel, Dorothy,	E-3- 67 - E-3- 77
Teffeteller, Gordon,	S-4-371 - S-4-376
Thompson, Bryan,	C-4-234 - C-4-238
Vass, Ben,	E-6-169 - E-6-176
Veal, Willis,	S-2-305 - S-2-310
Wendell, Sister Patricia,	S-2-348 - S-2-353
Weston, Robert H.,	S-3-354 - S-3-356
Witthuhn, Burton O.,	E-6-181 - E-6-185
Woodruff, Edward,	S-1-281 - S-1-289
Wright, Robert C.,	C-6-268 - C-6-269